CCS Technical Documentation
RH-26 Series Transceivers

4 – Service Software and Tuning Instructions

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Quick Guide for Phoenix Service SW Installation

Phoenix installation steps in brief

These are the basic steps to install Phoenix service software:

- Connect a DK2 Dongle or FLS-4S POS flash device.
- Install the Phoenix service SW.
- Install the data package for Phoenix.
- Configure users.
- Manage connection settings (depends on the tools you are using).
- Phoenix is now ready for FLS-4S Point Of Sales flash device use.
- If you use FPS-8:

  Update FPS-8 SW.

  Activate FPS-8.

  Update JBV-1 docking station SW (only when needed).
- Phoenix is now ready for use also with FPS-8 flash prommer and other tools.

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Phoenix service software installation contains:

- Service software support for all phone models included in the package.
- Flash update package files for FPS-8* and FLS-4S programming devices.
- All needed drivers for:

  DK2 dongle

  FLS-4S point of sales flash device

  USB devices

Separate installation packages for flash update files and drivers are also available, but it is not necessary to use them unless updates appear between Phoenix service SW releases. If separate update packages are used, they should be used after Phoenix and data packages have been installed.

The phone model specific data package includes all product specific data:

- Product software binary files
- Files for type label printing
- Validation file for the fault log repair data reporting system
- All product specific configuration files for Phoenix software components

Phoenix service SW and phone data packages should only be used as complete installation packages. Uninstallation should be made from Windows's control panel.

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Phoenix Service SW

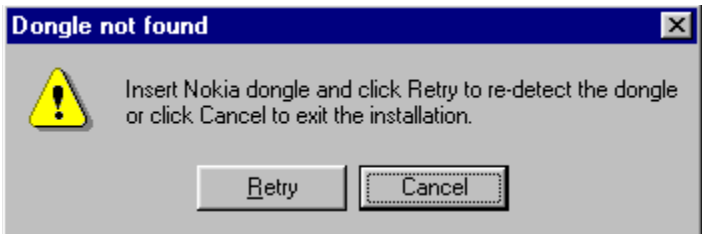
Before installation

- Check that a dongle is attached to the parallel port of your computer.
- Download the installation package (e.g. *phoenix_service_sw_a11_2003_41_5_28.exe*) to your computer (e.g. C:\TEMP).
- Close all other programs.
- Run the application file (e.g. *phoenix_service_sw_a11_2003_41_5_28.exe*) and follow instructions on the screen.
- Administrator rights may be required to be able to install Phoenix depending on the operating system.
- If uninstalling or rebooting is needed at any point, you will be prompted by the Install Shield program.
- If at any point during installation you get this message:

  “Dongle is not found and installation cannot continue.“

  Possible reasons may be a defective or too old PKD-1 dongle (five digit serial number dongle when used with FPS-8 prommer) or that the FLS-4S POS flash dongle is defective or power to it is not supplied by external charger.

  First, check the COM /parallel ports used! After correcting the problem, installation can be restarted.


Dongle not found
Insert Nokia dongle and click Retry to re-detect the dongle or click Cancel to exit the installation.
Retry
Cancel

Installing Phoenix

To install Phoenix:

1 Run *phoenix_service_sw_a11_2003_41_5_28.exe*.

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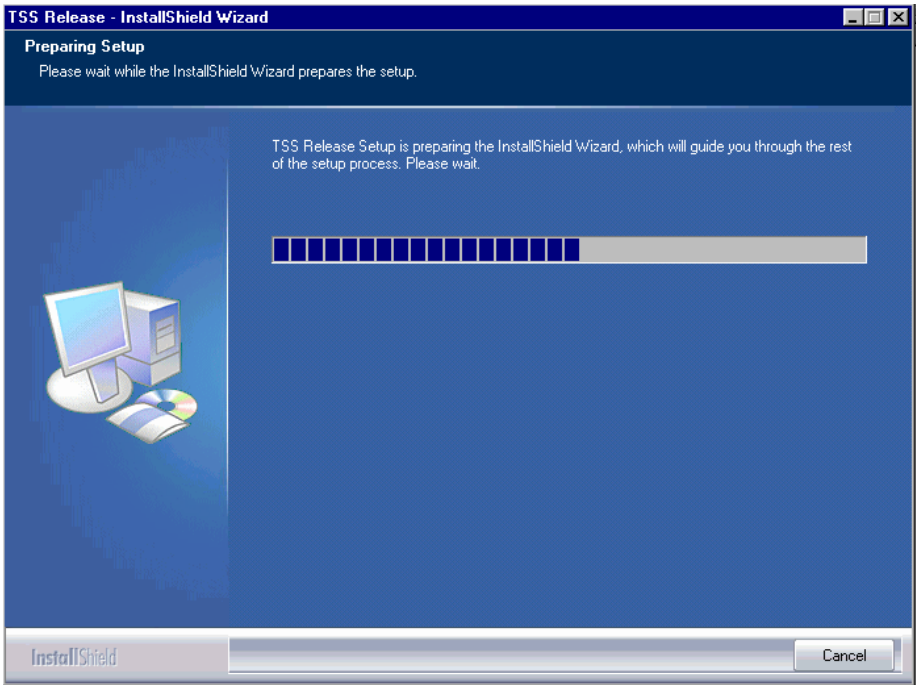
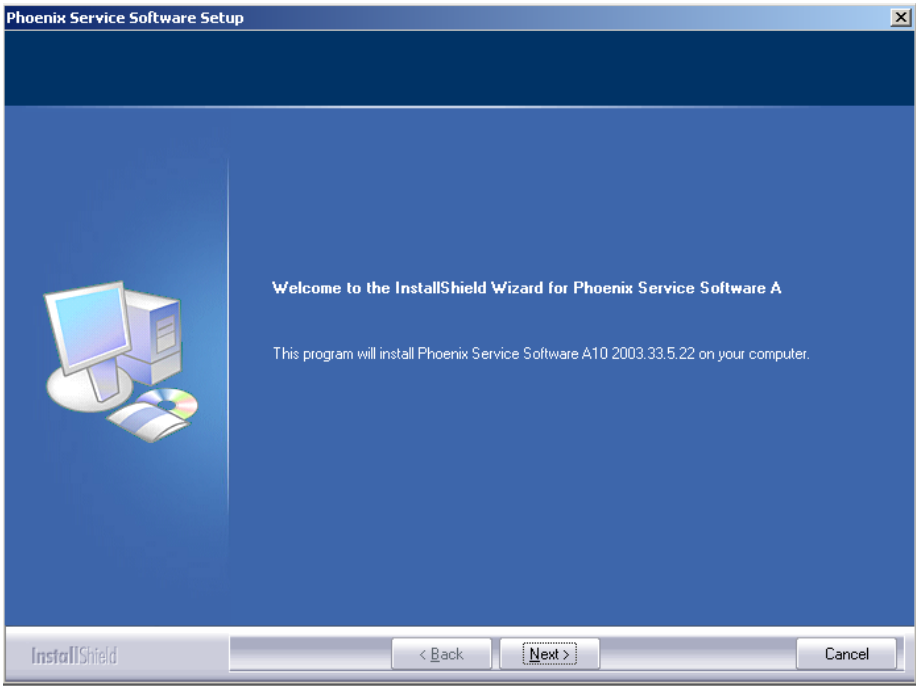
Install Shield starts.


TSS Release - InstallShield Wizard
Preparing Setup
Please wait while the InstallShield Wizard prepares the setup.
TSS Release Setup is preparing the InstallShield Wizard, which will guide you through the rest of the setup process. Please wait.
InstallShield
Cancel

2 In the Welcome dialog, click "Next" to continue.


Phoenix Service Software Setup
Welcome to the InstallShield Wizard for Phoenix Service Software A
This program will install Phoenix Service Software A10 2003.33.5.22 on your computer.
InstallShield
< Back
Next >
Cancel

3 Choose destination folder.

It is recommended to use the default folder *C:\ProgramFiles\Nokia\Phoenix*.

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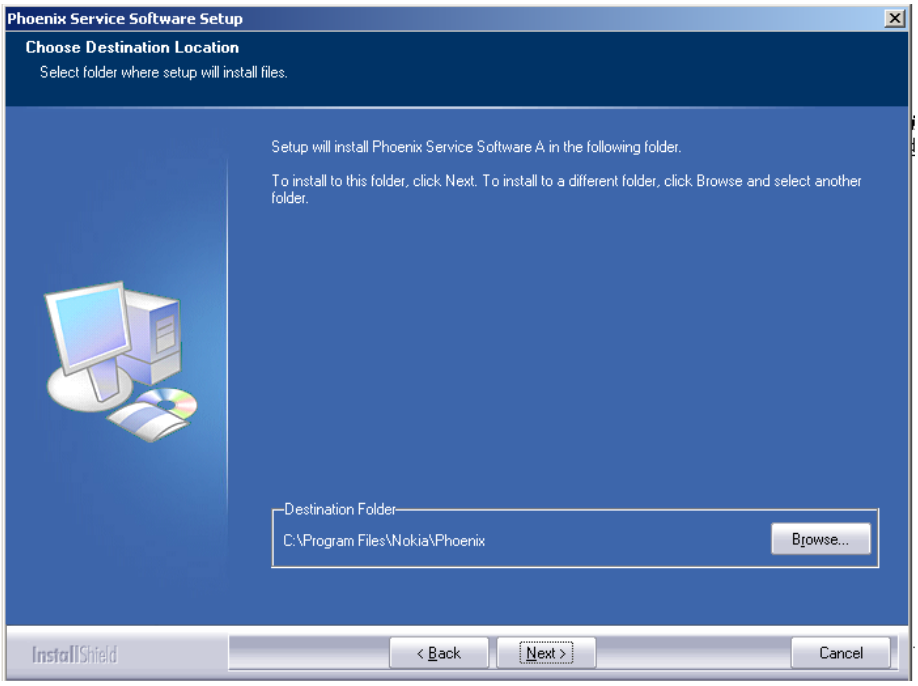
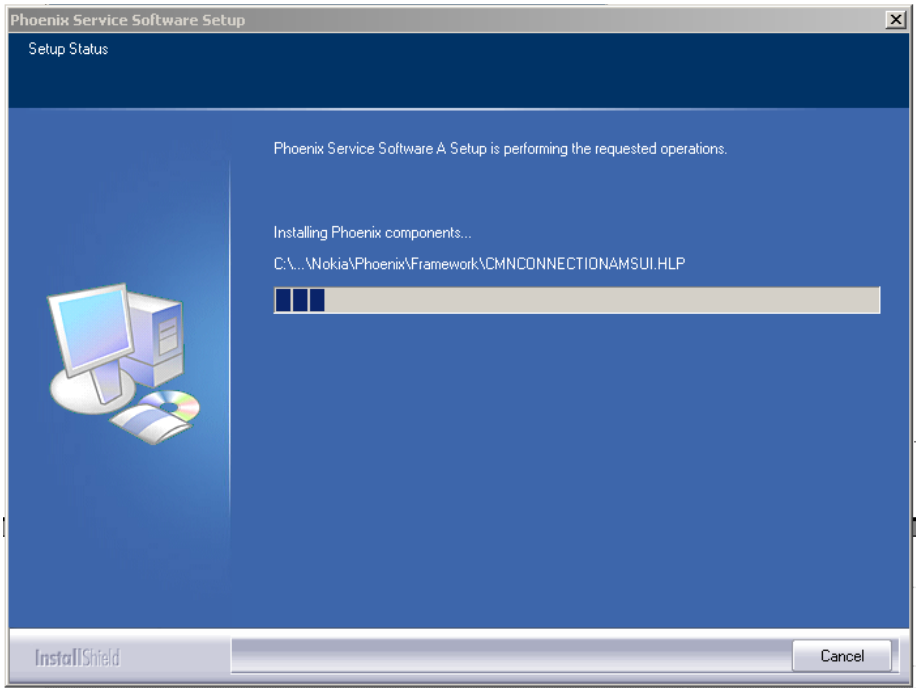
4 To continue, choose "Next".

You may choose another location by selecting "Browse" (not recommended).


Phoenix Service Software Setup
Choose Destination Location
Select folder where setup will install files.
Setup will install Phoenix Service Software A in the following folder.
To install to this folder, click Next. To install to a different folder, click Browse and select another folder.
Destination Folder
C:\Program Files\Nokia\Phoenix
Browse...
InstallShield
< Back
Next >
Cancel

Setup copies the components, progress of the setup is shown. Please wait...



Drivers are installed and updated, please wait. The process may take several min-

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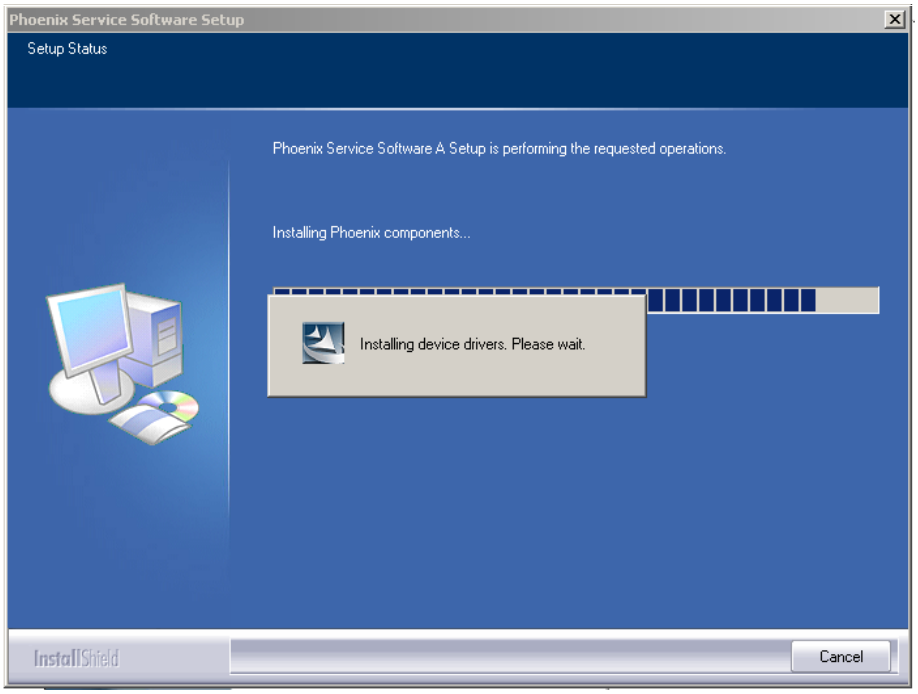
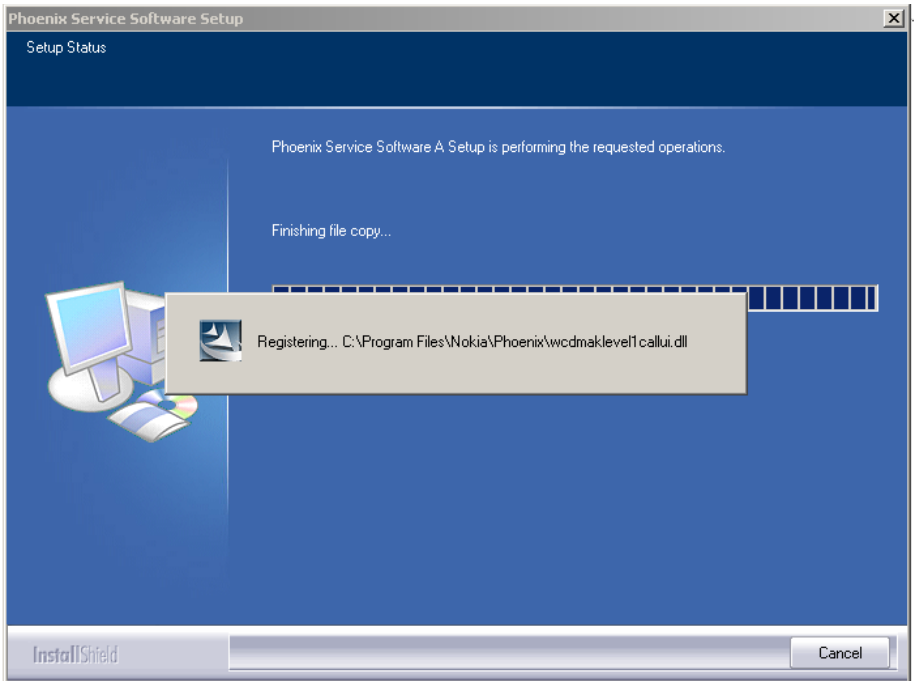
utes to complete.



If the operating system does not require rebooting (Windows 2000, XP), the PC components are registered straight away.



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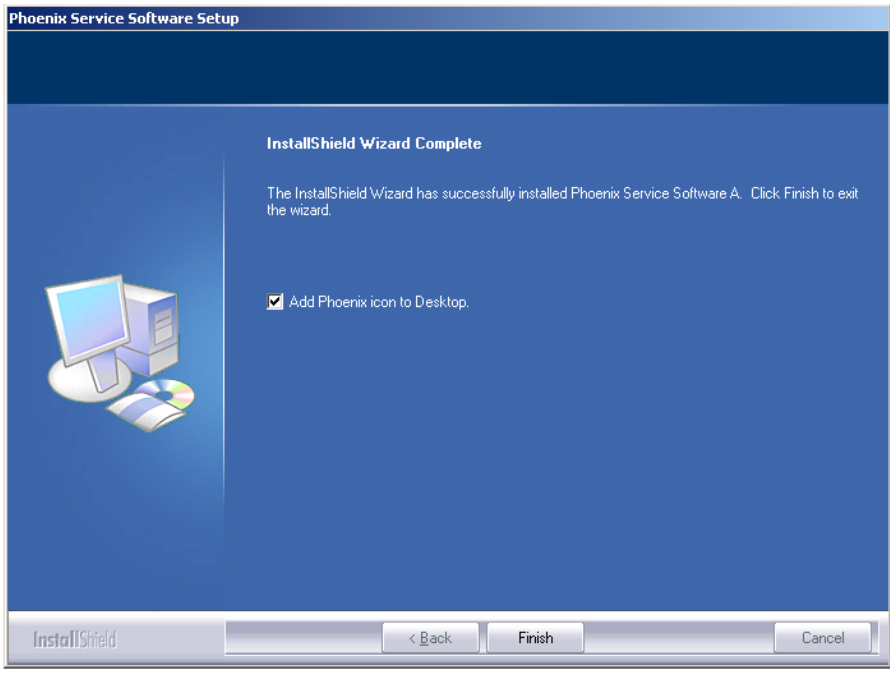
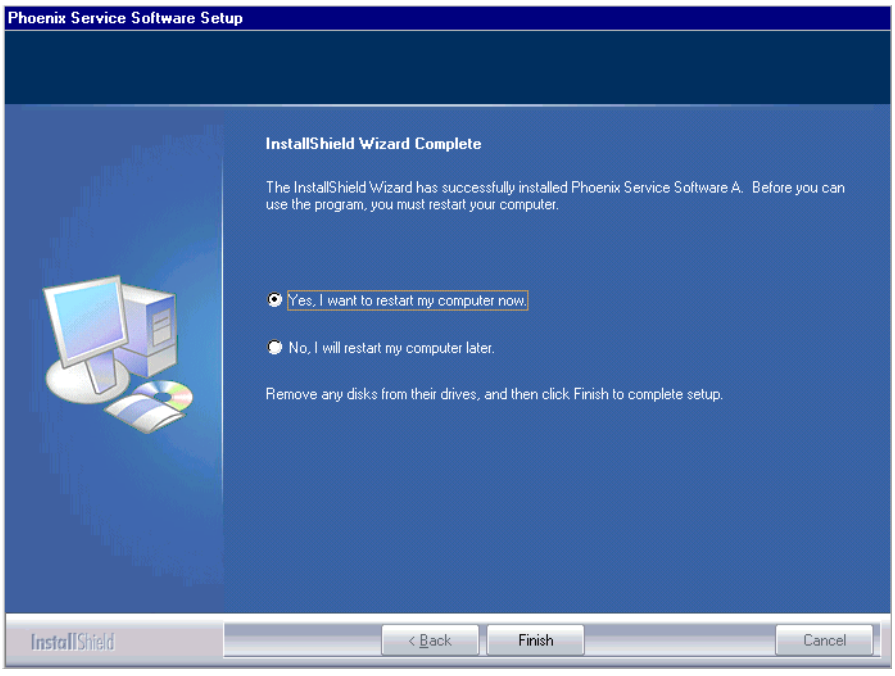
5 Click "Finish".

Phoenix is ready for use.


Phoenix Service Software Setup
InstallShield Wizard Complete
The InstallShield Wizard has successfully installed Phoenix Service Software A. Click Finish to exit the wizard.
Add Phoenix icon to Desktop.
InstallShield
< Back
Finish
Cancel

If the operating system used requires restarting your computer (Windows 98, SE, ME) the Install Shield Wizard will tell you about it. Select "Yes..." to reboot the PC immediately and "No..." to reboot the PC manually afterwards.


Phoenix Service Software Setup
InstallShield Wizard Complete
The InstallShield Wizard has successfully installed Phoenix Service Software A. Before you can use the program, you must restart your computer.
Yes, I want to restart my computer now.
No, I will restart my computer later.
Remove any disks from their drives, and then click Finish to complete setup.
InstallShield
< Back
Finish
Cancel

After the reboot, components are registered and Phoenix is ready for use. Note that

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Phoenix does not work, if components are not registered.

Now the installation of Phoenix service SW is ready and it can be used after:

- Installing phone model specific data package for Phoenix
- Configuring users and connections
- FLS-4S can be used straight away
- FPS-8* can be used after updating flash update package files

Updating Phoenix installation

If you already have the Phoenix service SW installed on your computer, you will need to update it when new versions are released.

Always use the latest available versions of both the Phoenix service SW and the phone specific data package. Instructions can be found in phone model specific Technical Bulletins and phone data package readme.txt files (shown during installation).

To update Phoenix, you need to take exactly the same steps as when installing it for the first time.

1 Download the installation package to your computer hard disk.

2 Close all other programs.

3 Run the application file (e.g. *phoenix_service_sw_a11_2003_41_5_28.exe).*

4 Newer version of Phoenix is installed.

5 Driver versions are checked and if need be, updated.

When you update Phoenix (e.g. *a10_2003_33_5_22* to *a11_2003_41_5_28.exe*), the update takes place automatically without uninstallation.

If you try to update Phoenix with the same version that you already have (e.g. *a11_2003_41_5_28* to *a11_2003_41_5_28*), you are asked if you want to uninstall the current Phoenix version. In this case you can choose between total uninstallation and repair.

If you try to install an older version (e.g. downgrade from *a11_2003_41_5_28* to

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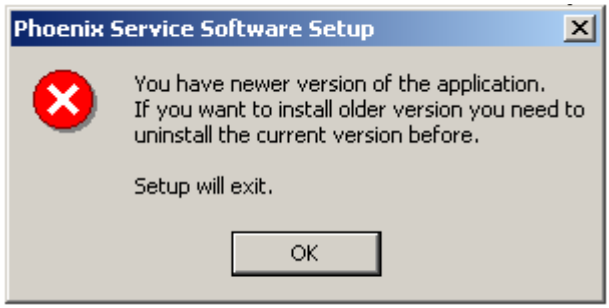
a10_2003_33_5_22), installation will be interrupted.


Phoenix Service Software Setup
You have newer version of the application.
If you want to install older version you need to uninstall the current version before.
Setup will exit.
OK

Please always follow the instructions on the screen.

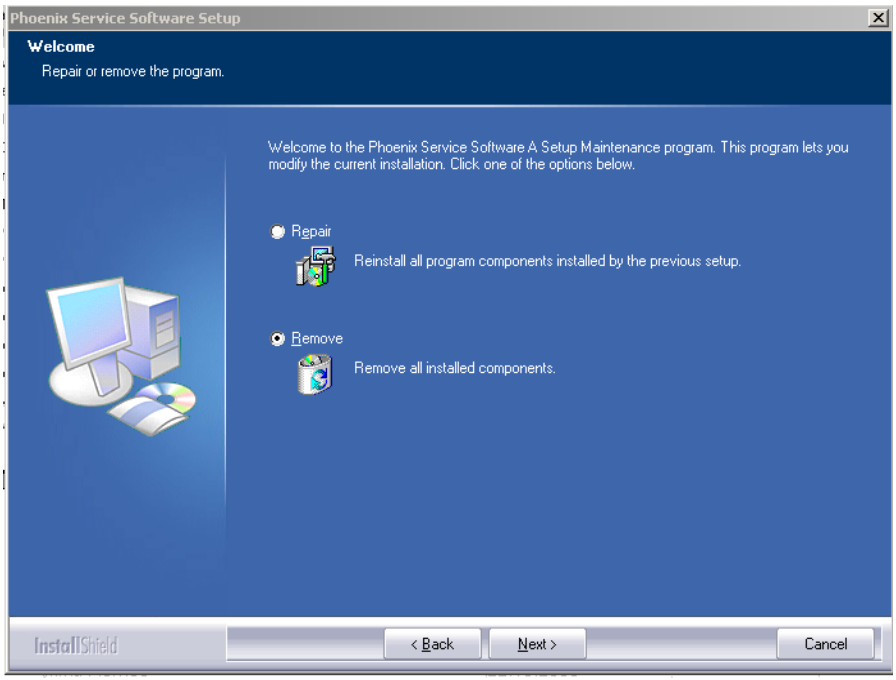
Uninstalling Phoenix

You can uninstall Phoenix manually from Windows's control panel.

To uninstall:

1 Choose Add / Remove Programs -> "Phoenix Service Software".

2 Click "Add/Remove" -> "Remove".


Phoenix Service Software Setup
Welcome
Repair or remove the program.
Welcome to the Phoenix Service Software A Setup Maintenance program. This program lets you modify the current installation. Click one of the options below.
Repair
Reinstall all program components installed by the previous setup.
Remove
Remove all installed components.
InstallShield
< Back
Next >
Cancel

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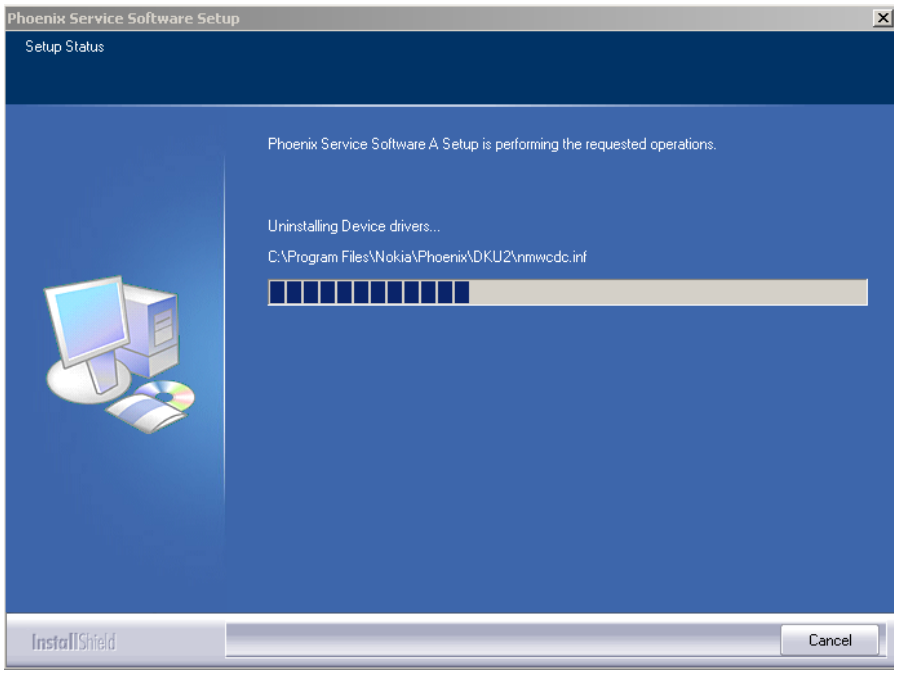
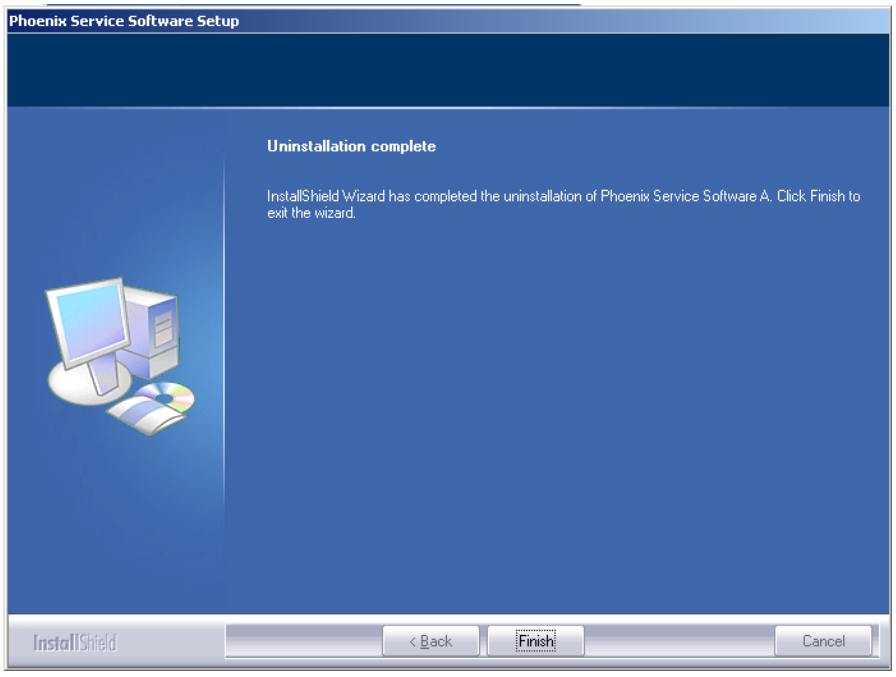
Progress of the uninstallation is shown.



3 **If the operating system does not require rebooting**, click "Finish" to complete.


Phoenix Service Software Setup
Uninstallation complete
InstallShield Wizard has completed the uninstallation of Phoenix Service Software A. Click Finish to exit the wizard.
InstallShield
< Back
Finish
Cancel

If the operating system requires rebooting, Install Shield Wizard notifies you about it. Select "Yes..." to reboot the PC immediately and "No..." to reboot the PC

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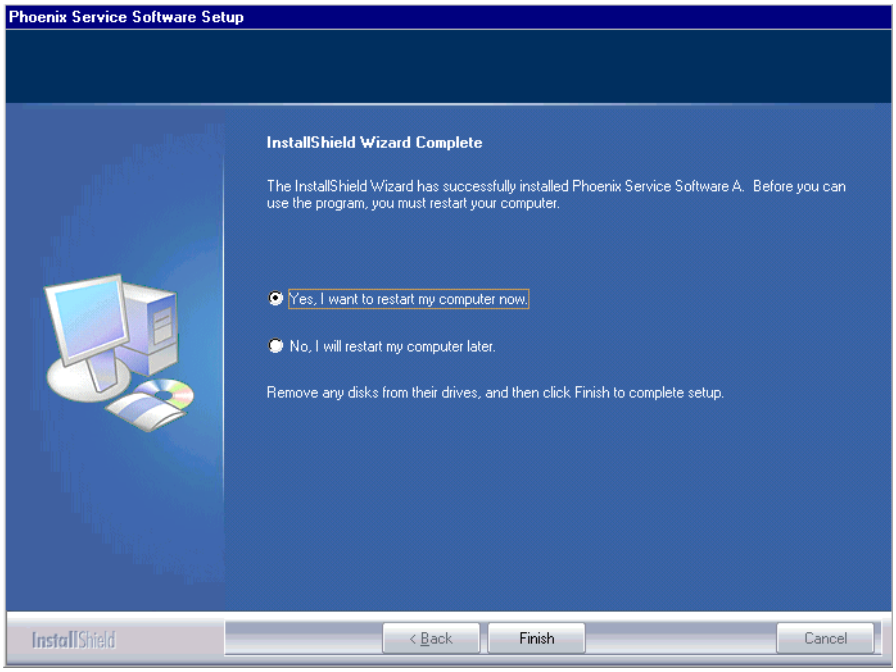
manually afterwards._


Phoenix Service Software Setup
InstallShield Wizard Complete
The InstallShield Wizard has successfully installed Phoenix Service Software A. Before you can use the program, you must restart your computer.
Yes, I want to restart my computer now.
No, I will restart my computer later.
Remove any disks from their drives, and then click Finish to complete setup.
InstallShield
< Back
Finish
Cancel

Repair

If you experience any problems with service software or suspect that files have been lost, you can use the repair function before completely reinstalling Phoenix. Note that the original installation package (e.g. *phoenix_service_sw_a11_2003_41_5_28.exe)* must be found on your PC when you run the repair setup.

To run the repair setup:

1 Run Windows Control Panel.

2 Choose Add / Remove Programs -> “Phoenix Service Software”.

3 Click "Add/Remove".

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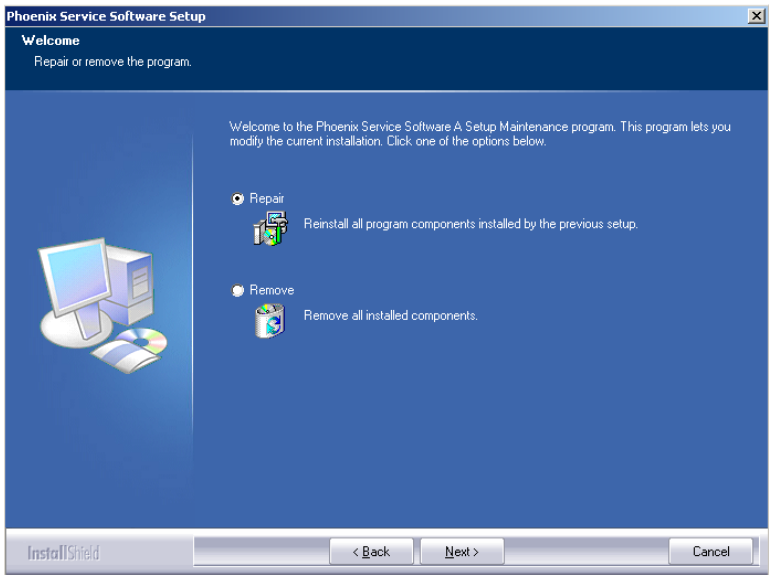
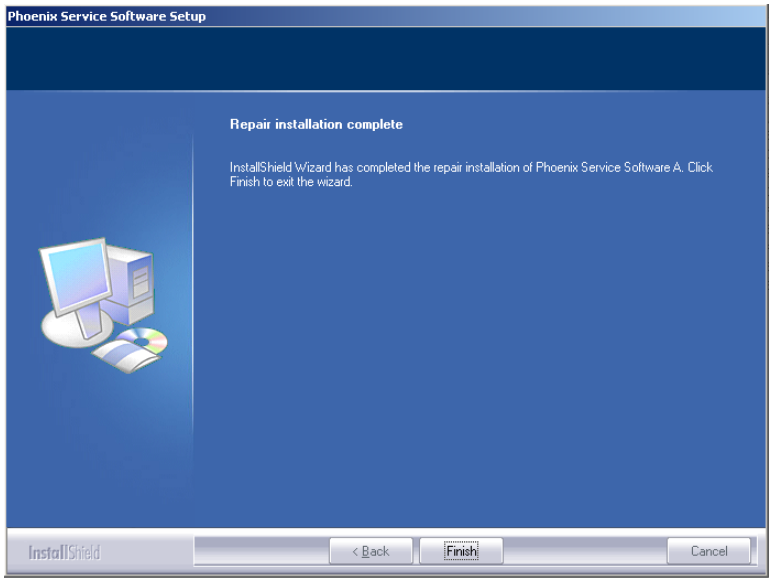
4 In the following view, choose “Repair”.


Phoenix Service Software Setup
Welcome
Repair or remove the program.
Welcome to the Phoenix Service Software A Setup Maintenance program. This program lets you modify the current installation. Click one of the options below.
Repair
Reinstall all program components installed by the previous setup.
Remove
Remove all installed components.
InstallShield
< Back
Next >
Cancel

Phoenix reinstalls the required components and registers them, procedure is the same as in the update installation.

5 To complete, choose “Finish”.


Phoenix Service Software Setup
Repair installation complete
InstallShield Wizard has completed the repair installation of Phoenix Service Software A. Click Finish to exit the wizard.
InstallShield
< Back
Finish
Cancel

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Data Package for Phoenix (Product Specific)

Before installation

- Product data package contains all product specific data to make the Phoenix service software and tools usable with a certain phone model.
- Check that the dongle is attached to the parallel port of your computer.
- Install Phoenix service SW.
- Download the installation package (e.g. *RH-26_dp_v_1.0_MCUSW3_19.exe*) to your computer (e.g. C:\TEMP).
- Close all other programs.
- Run the application file (e.g. *RH-26_dp_v_1.0_MCUSW3_19.exe*) and follow instructions on the screen.

Please note that very often the Phoenix service SW and the phone specific data package for Phoenix come in pairs, meaning that certain version of Phoenix can only be used with certain data package version. Always use the latest available versions. Instructions can be found in phone model specific Technical Bulletins and readme.txt files of the data packages.

Installing Phoenix data package (product specific)

To install the data package:

1 Run the *RH-26_dp_v_1.0_MCUSW3_19.exe* file.

2 Click "Next".

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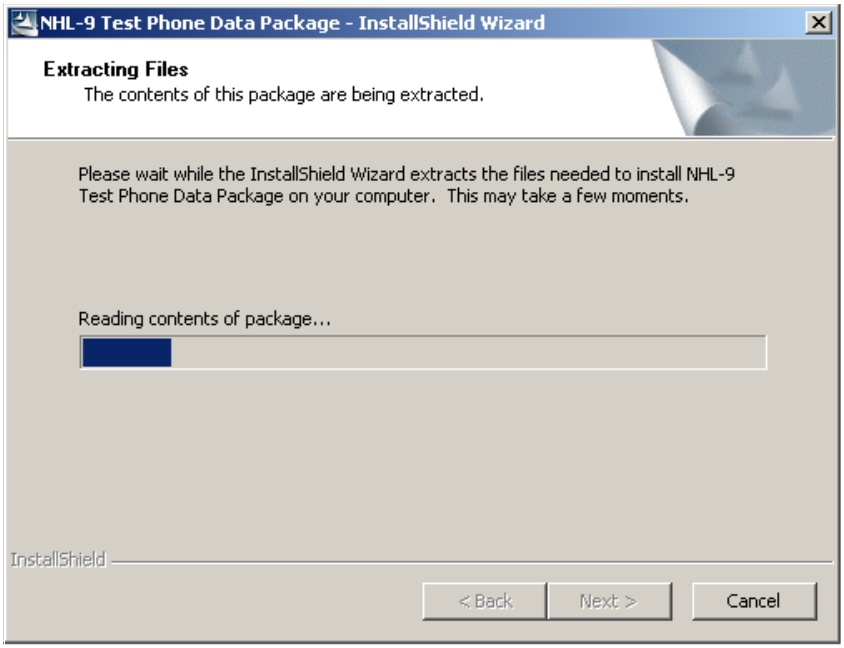
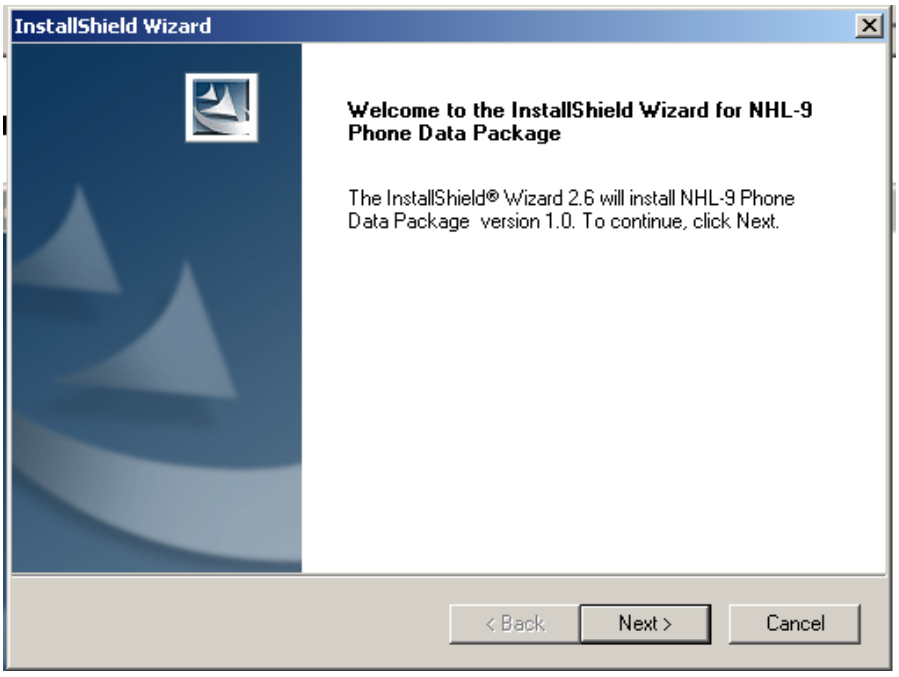
The files needed for installation are extracted. Please wait...


NHL-9 Test Phone Data Package - InstallShield Wizard
Extracting Files
The contents of this package are being extracted.
Please wait while the InstallShield Wizard extracts the files needed to install NHL-9 Test Phone Data Package on your computer. This may take a few moments.
Reading contents of package...
InstallShield
< Back
Next >
Cancel

3 To continue, click "Next".


InstallShield Wizard
Welcome to the InstallShield Wizard for NHL-9 Phone Data Package
The InstallShield® Wizard 2.6 will install NHL-9 Phone Data Package version 1.0. To continue, click Next.
< Back
Next >
Cancel

4 From this view, you can see the contents of the data package. **Read the text carefully**. There should be information about the Phoenix version needed with this data package.

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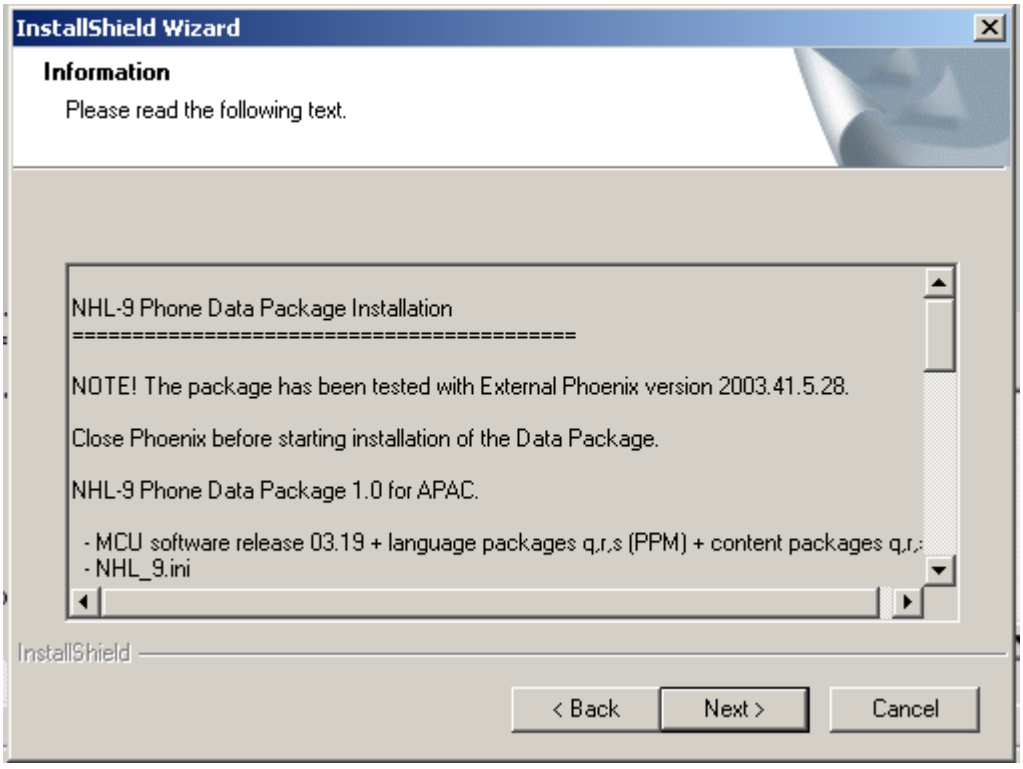
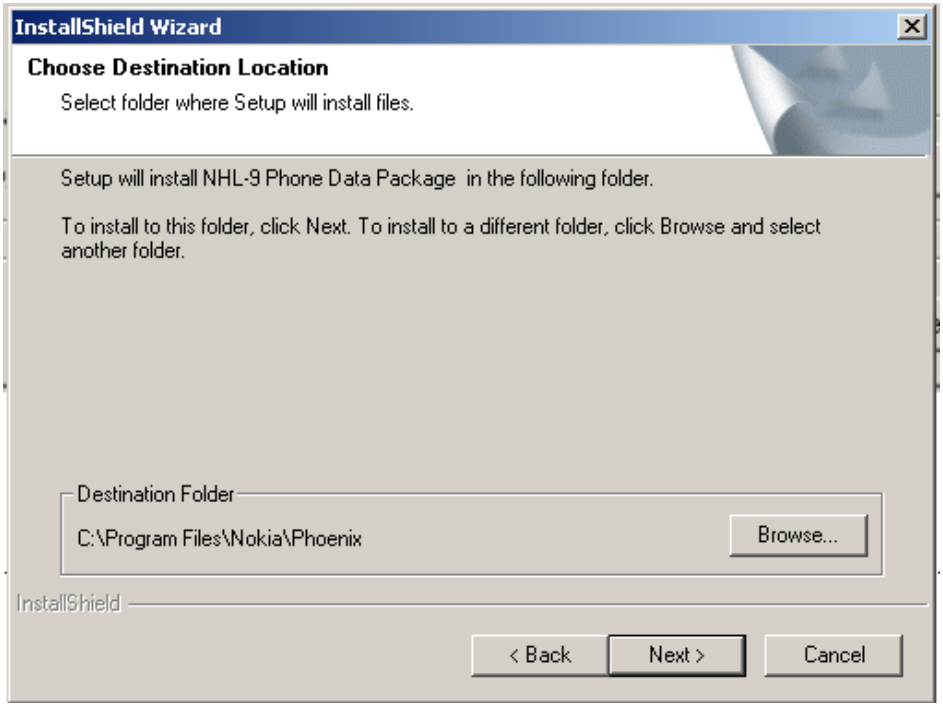
5 Click “Next”.


InstallShield Wizard
Information
Please read the following text.
NHL-9 Phone Data Package Installation
==========
NOTE! The package has been tested with External Phoenix version 2003.41.5.28.
Close Phoenix before starting installation of the Data Package.
NHL-9 Phone Data Package 1.0 for APAC.
- MCU software release 03.19 + language packages q,r,s (PPM) + content packages q,r,
- NHL_9.ini
InstallShield
< Back
Next >
Cancel

6 To continue, confirm location and click “Next”.

Install shield checks where the Phoenix application is installed and the directory is shown.

7 To continue, click “Next”.


InstallShield Wizard
Choose Destination Location
Select folder where Setup will install files.
Setup will install NHL-9 Phone Data Package in the following folder.
To install to this folder, click Next. To install to a different folder, click Browse and select another folder.
Destination Folder
C:\Program Files\Nokia\Phoenix
Browse...
InstallShield
< Back
Next >
Cancel

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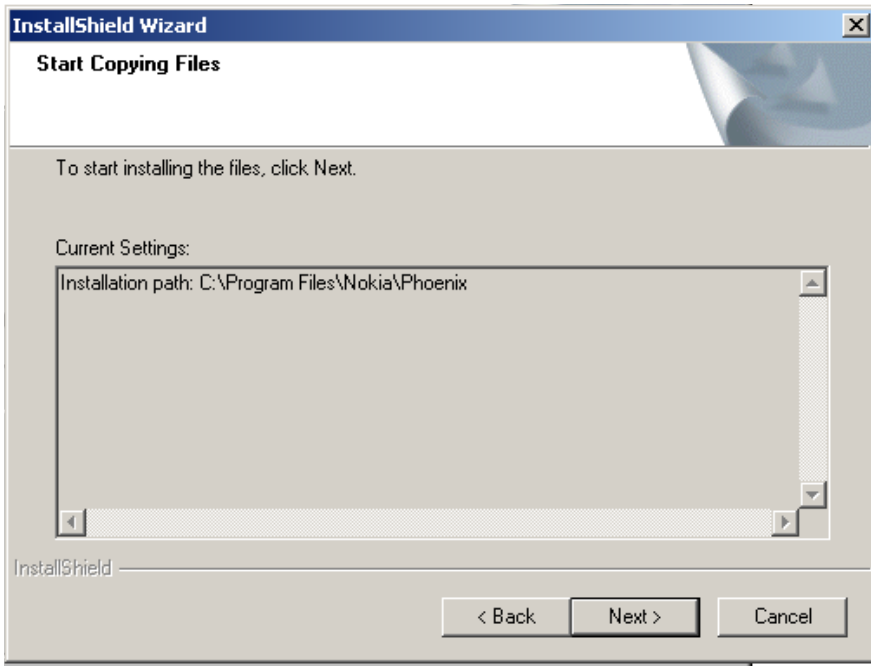
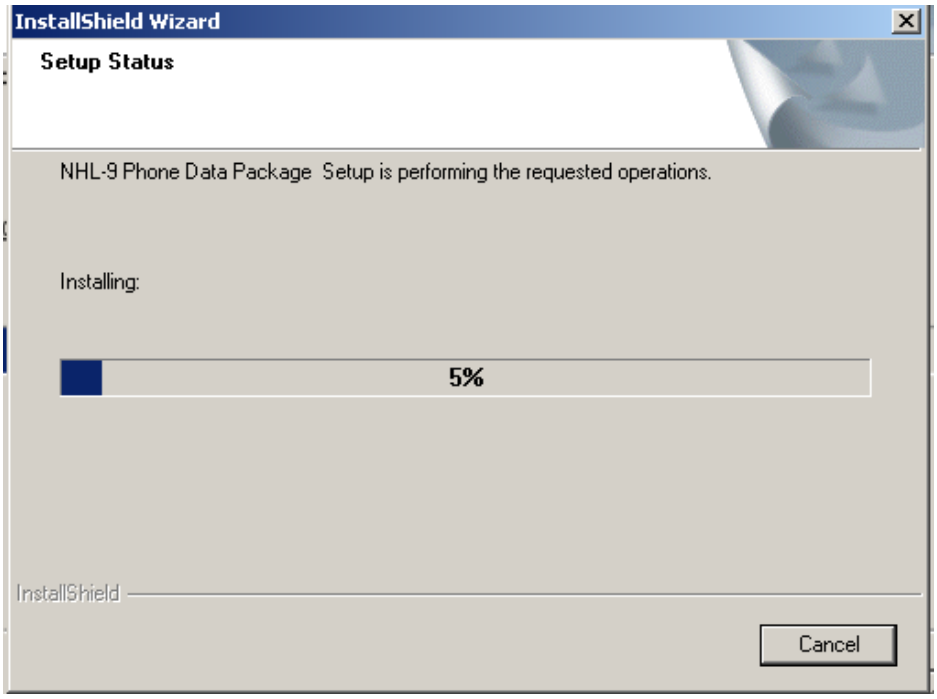
8 To start copying the files, click “Next”.



Phone model specific files are installed. Please wait.



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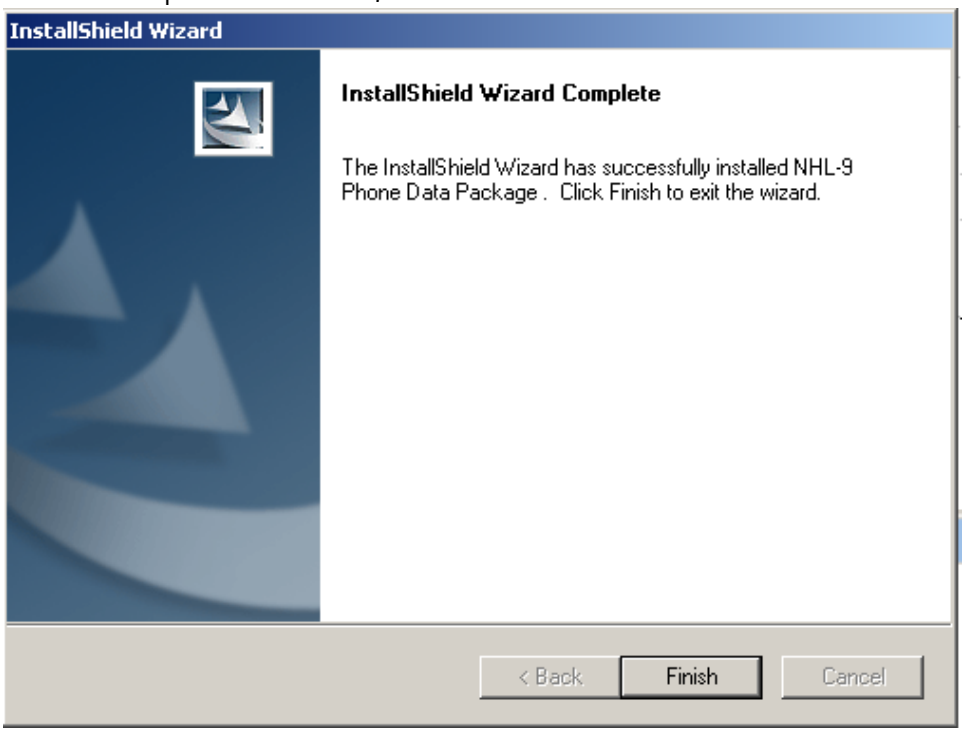
9 To complete installation, click "Finish".


InstallShield Wizard
InstallShield Wizard Complete
The InstallShield Wizard has successfully installed NHL-9 Phone Data Package . Click Finish to exit the wizard.
< Back
Finish
Cancel

You now have all phone model specific files installed in your Phoenix service SW.

Now Phoenix can be used to for example flash phones and print type labels after:

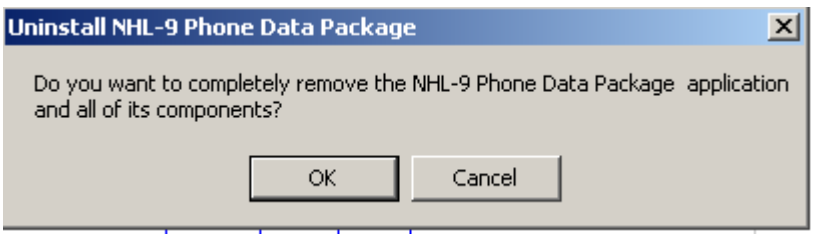
- Configuring users
- Managing connections
- FLS-4S can be used right away
- FPS-8* can be used after updating flash update package files to it

Uninstalling the data package

You can also uninstall the data package manually from the Windows's Control Panel.

1 Choose Add / Remove Programs/ -> RH-26 Phone Data Package.

2 If you try to install the same version of Phoenix data package that you already have, you are asked if you want to uninstall the current version. Answer "OK" to uninstall, "Cancel" if you do not want to uninstall.


Uninstall NHL-9 Phone Data Package
Do you want to completely remove the NHL-9 Phone Data Package application and all of its components?
OK
Cancel

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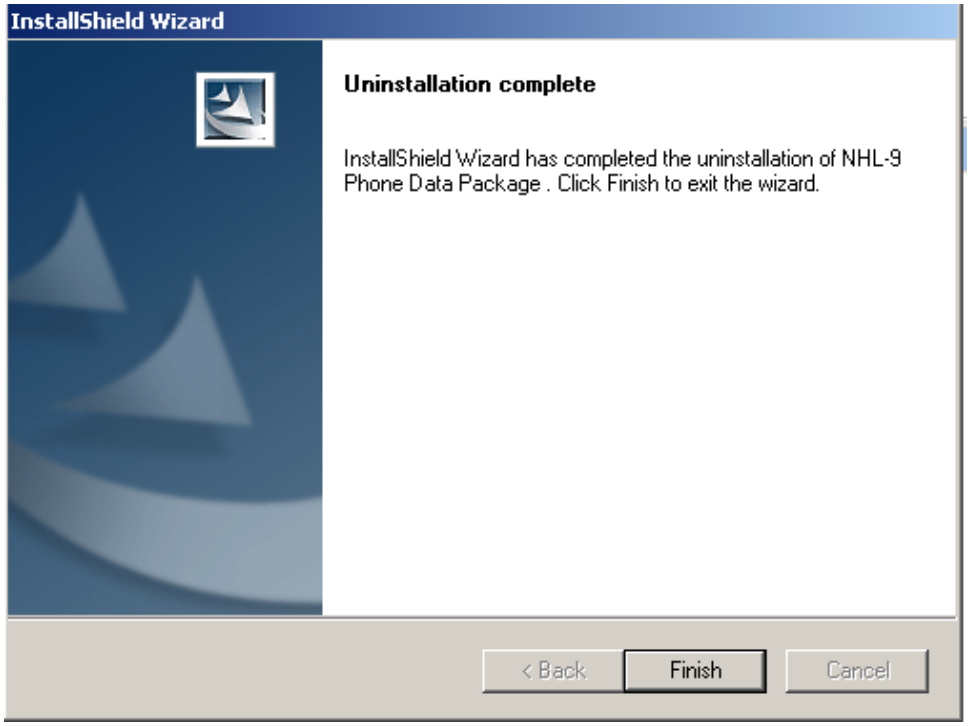
Older versions of data packages need not be uninstalled unless instructions to do so are given in the readme.txt of the data package and bulletins concerning the release. Please read all related documents carefully.

3 Once the previously installed data package is uninstalled, click "Finish".


InstallShield Wizard
Uninstallation complete
InstallShield Wizard has completed the uninstallation of NHL-9 Phone Data Package . Click Finish to exit the wizard.
< Back
Finish
Cancel

4 To continue installation from the beginning, run the *RH-26_dp_v_1.0_MCUSW3_19.exe* file gain.

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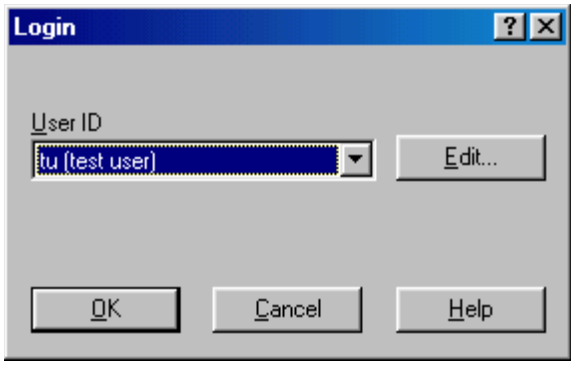
Configuring Users

To configure users:

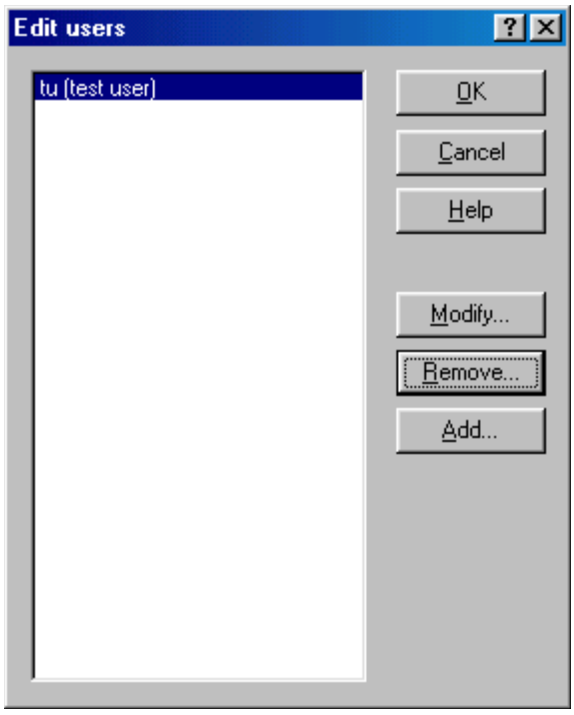
1 Start Phoenix service SW and login.

2 To add new user, choose "Edit".

If a user ID is already configured, choose your own user ID from the list and click "OK".



3 To continue, click "Add".



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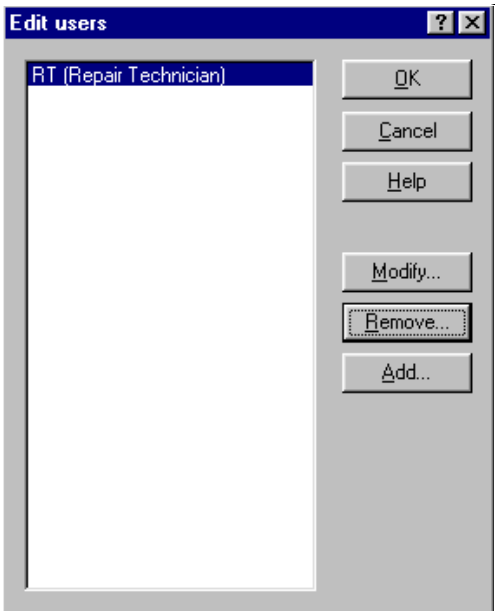
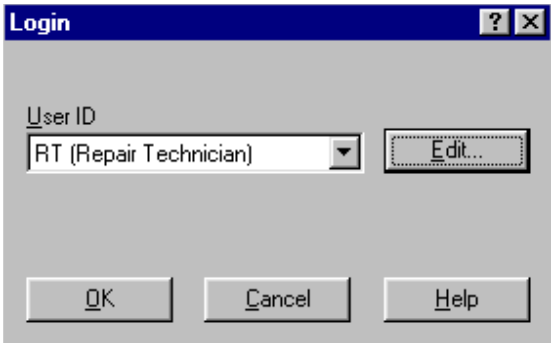
4 Type in your name and initials to the fields and click "OK".

5 User has now been created, click "OK".



6 You are now able to login with this username, click "OK".



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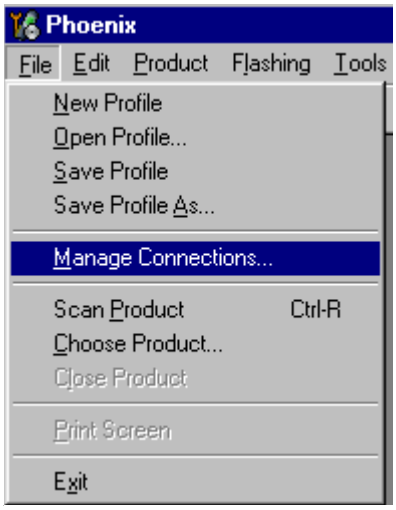
Managing Connections

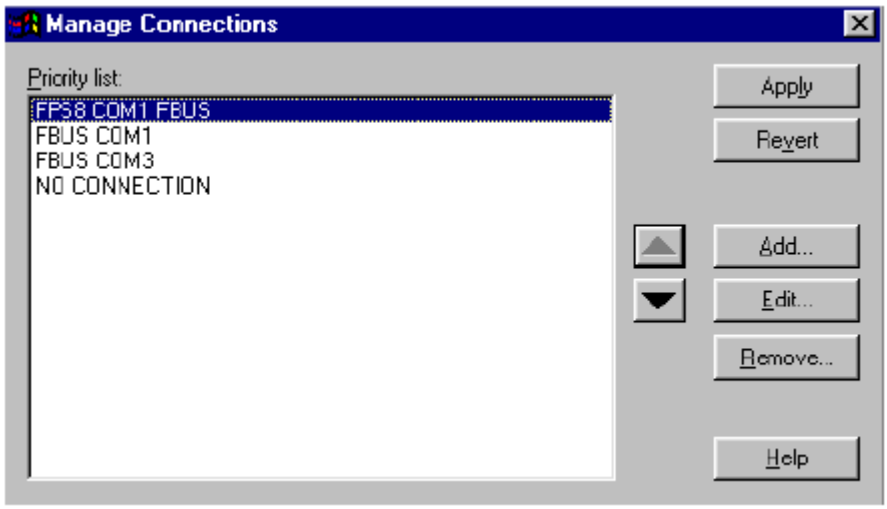
To manage connections:

1 Start Phoenix service SW and login.

2 From the File menu, choose “Manage Connections”.



The following dialog appears:



In the Manage Connections dialog, you can select, edit, delete existing connections and create new ones.

You can create a connection either manually or by using a Connection Wizard.

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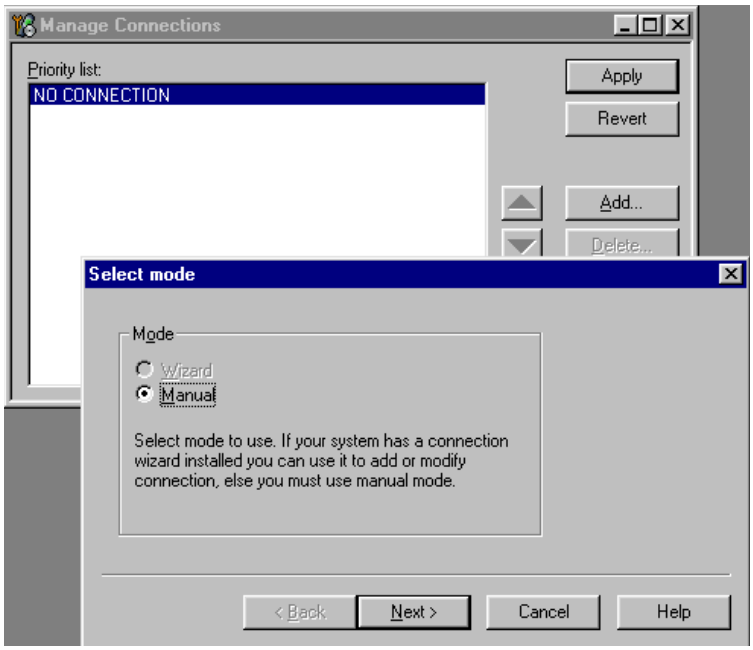
3 To add new connection, click "Add" and select if you want to create it manually or by using the Wizard.

4 To continue, click "Next".

5 In the next dialogs, you are asked to select some settings for the connection.



Manual settings

A) For **FLS-4S POS Flash Device,** choose the following connection settings:

Media: FBUS
COM Port: Virtual COM Port used by FLS-4 **Please always check this!**

(To check the settings, go to Windows / Control Panel / FLS Virtual Port / Configuration)

B) For **FPS-8 Flash Prommer,** choose the following connection settings:

Media: FPS-8
Port Num: COM Port where FPS-8 is connected
COMBOX_DEF_MEDIA: FBUS

6 To complete, click "Finish".

If you use the Wizard, connect the tools and the phone to your PC and the wizard

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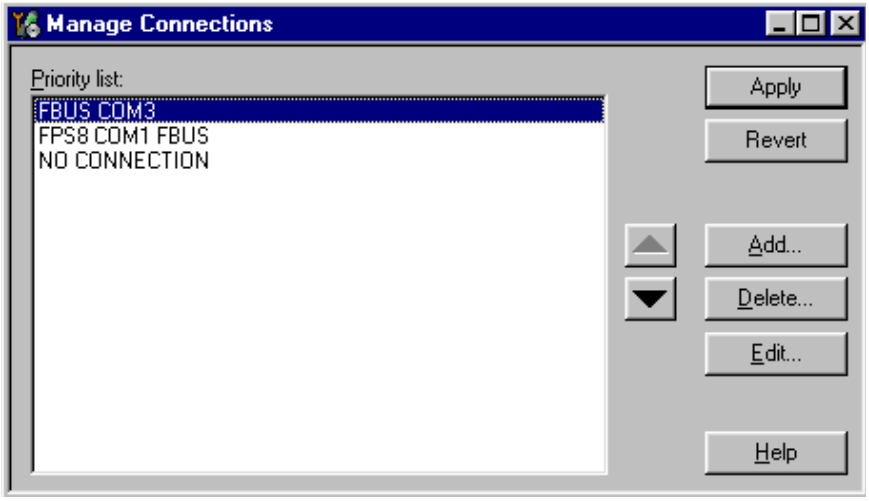
will automatically try to configure the correct connection.

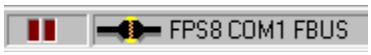
7 To activate the connection you want to use, click it and use up/down arrows to move it on top of the list.

8 Click "Apply".

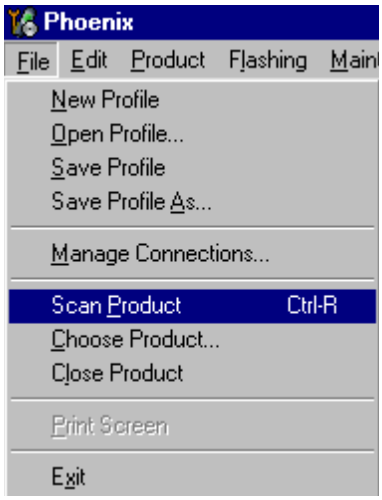
The connection is now selected and can be used after closing the "Manage Connections" window.



The selected connection is shown at the right-hand bottom corner of the screen.



9 To use the selected connection, connect the phone to Phoenix with correct service tools, make sure that it is switched on. From the File menu, choose "Scan Product".



When a product is found, Phoenix loads product support and when everything is ready, name of the loaded product support module and its version are shown at

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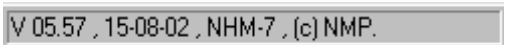
the bottom of the screen.



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Updating Flash Support Files for FPS-8* and FLS-4*

Before installation

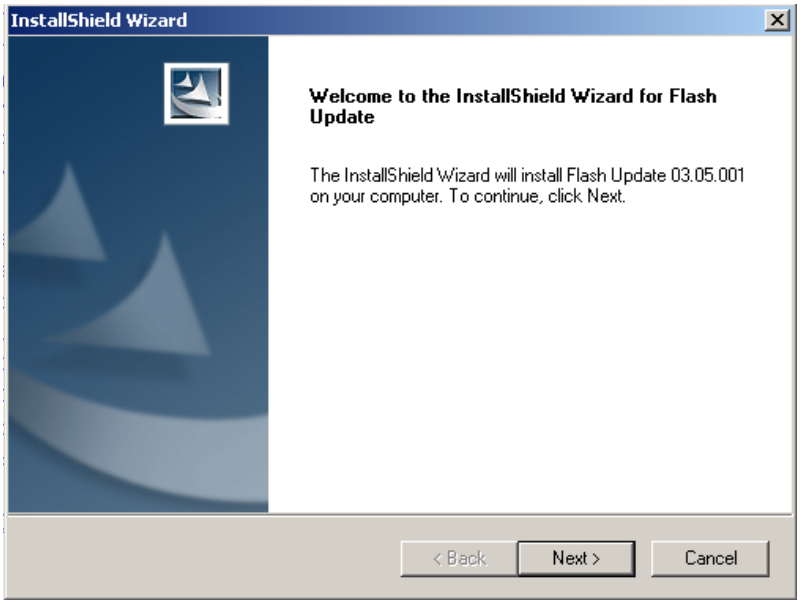
- Install Phoenix service SW.
- Install phone model specific data package for Phoenix.
- The flash support files are delivered in the same installation package with Phoenix data packages or newer Phoenix packages beginning from September 2003.
- Normally it is enough to install Phoenix and phone's data package because the Phoenix installation always includes the latest flash update package files for FLS-4S / FPS-8*.
- Separate installation package for flash support files is available, and the files can be updated by following these instructions (if updates appear between Phoenix / data package releases).

Installing the flash support files (only separate installation package)

If you are not using a separate installation package, you can skip this section.

To install the support files:

10 Double click *flash_update_03_05_001.exe*.


InstallShield Wizard
Welcome to the InstallShield Wizard for Flash Update
The InstallShield Wizard will install Flash Update 03.05.001 on your computer. To continue, click Next.
< Back
Next >
Cancel

If the same version of the flash update package already exists, and you want to reinstall it, the previous package is first uninstalled. Restart installation again

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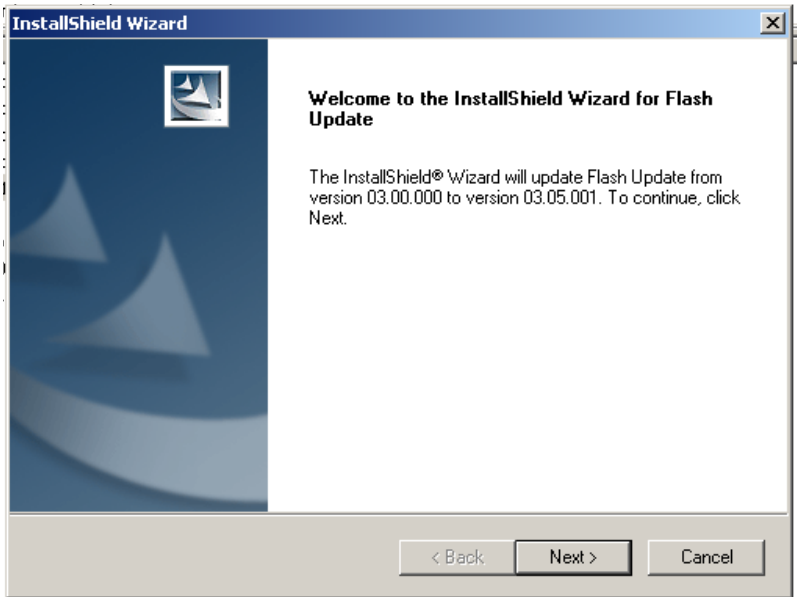
after that.

Uninstall Flash Update
Do you want to completely remove the Flash Update 03.05.001 application and all of its components?
OK
Cancel

If you try to downgrade the existing version, the setup will be aborted. However, if you want to downgrade, uninstall newer files manually from the Control Panel and then rerun the installation again.

You have newer version of the application.
If you want to install older version you need to uninstall the current version before.
Setup will exit.
OK

If an older version exists on your PC and it needs to be updated, click "Next" to continue installation.


InstallShield Wizard
Welcome to the InstallShield Wizard for Flash Update
The InstallShield® Wizard will update Flash Update from version 03.00.000 to version 03.05.001. To continue, click Next.
< Back
Next >
Cancel

11 Choose destination location.

It is **highly** recommended to install the files to the default destination folder C:\Program Files\Nokia\Phoenix.

Note! When installing the flash update files for the first time you may choose

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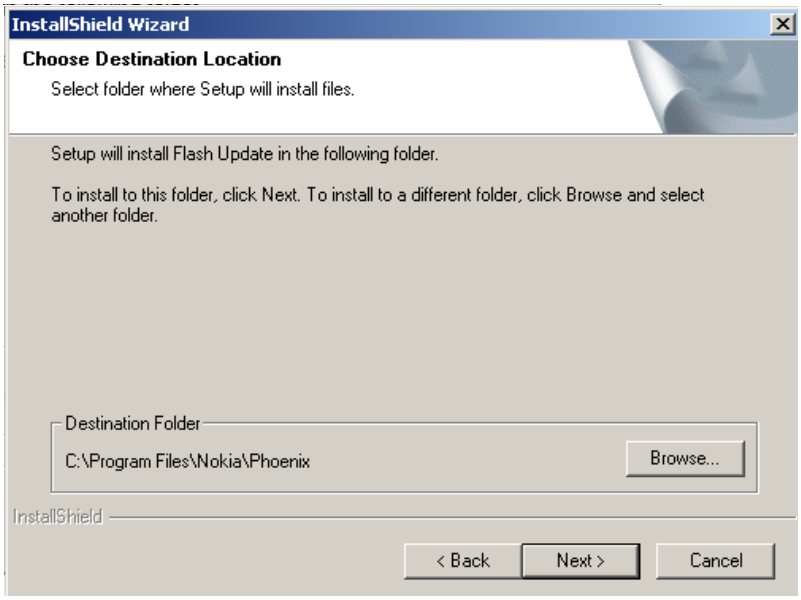
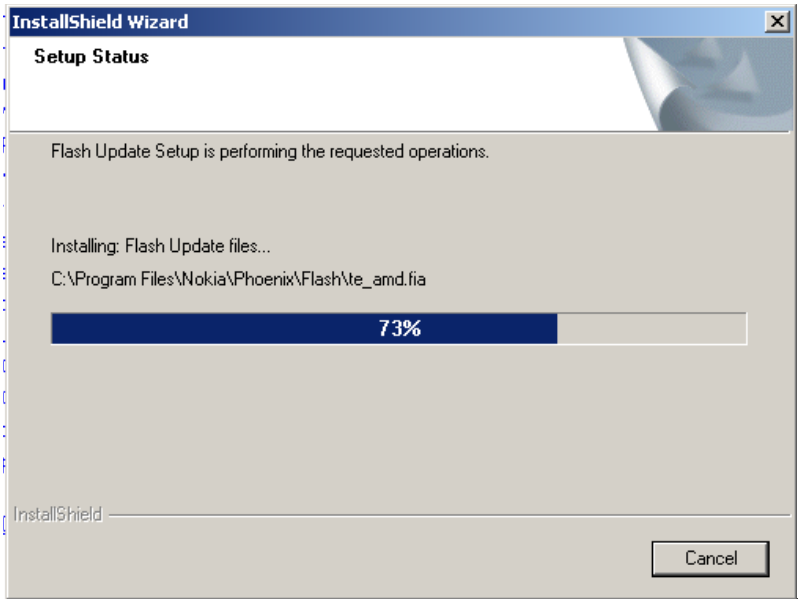
another location by selecting “Browse” (not recommended).


InstallShield Wizard
Choose Destination Location
Select folder where Setup will install files.
Setup will install Flash Update in the following folder.
To install to this folder, click Next. To install to a different folder, click Browse and select another folder.
Destination Folder
C:\Program Files\Nokia\Phoenix
Browse...
InstallShield
< Back
Next >
Cancel

12 To continue, click “Next”.

The installation continues...



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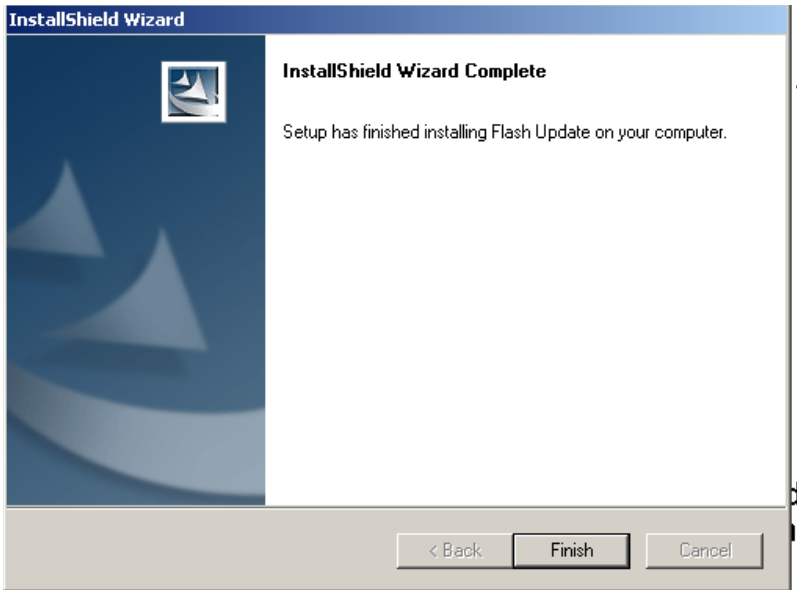
13 To complete the procedure, click "Finish".



FLS-4 can be used right after the flash update package is installed.

FPS-8* flash prommer must be updated by using Phoenix!

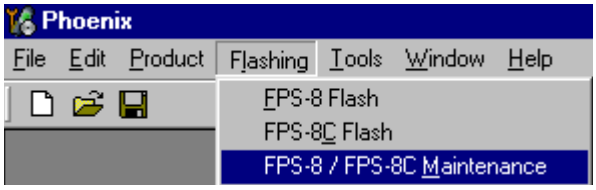
Updating FPS-8* flash prommer SW

To update the flash prommer software:

1 Start Phoenix service software and login.

Manage connection correctly for the FPS-8* flash prommer.

2 From the "Flashing" menu, choose "FPS-8 Maintenance".



3 When a new FPS-8 flash update package is installed to your computer, you are asked to update the files to your FPS-8 Prommer.

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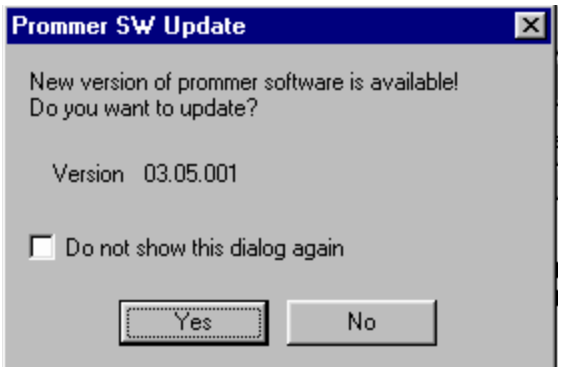
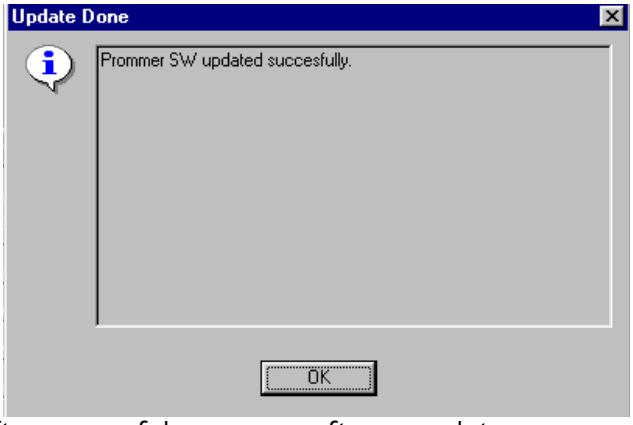
To update files, click "Yes".

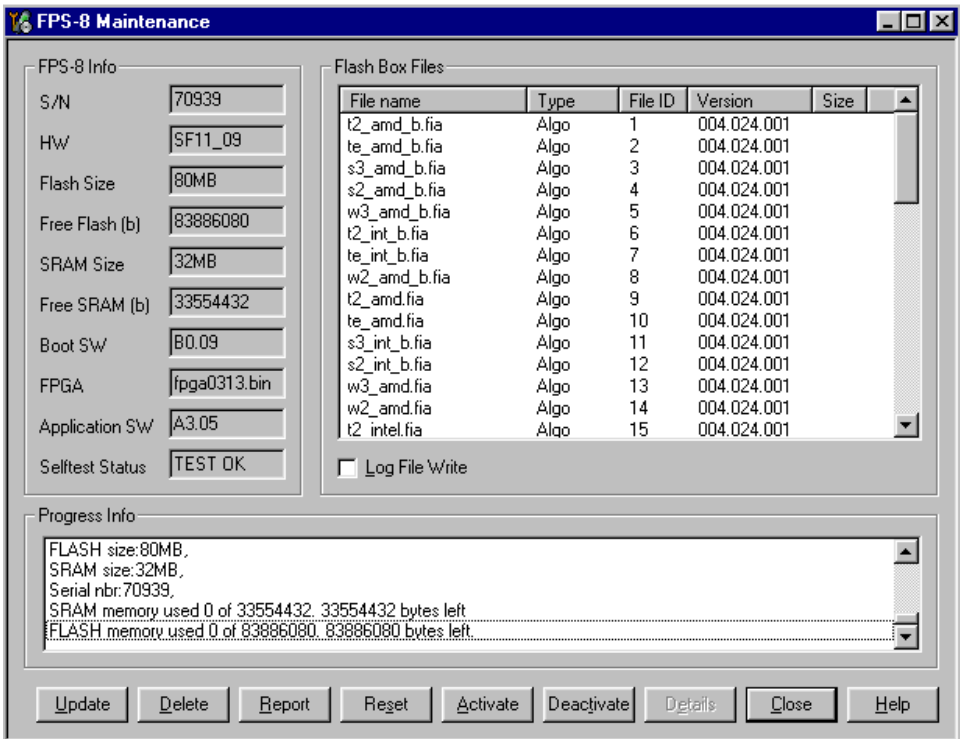


The update procedure takes a couple of minutes, please wait until you are notified that the update has been successful.

4 Click "OK" and close the "FPS-8 Maintenance" window.



View after successful prommer software update.



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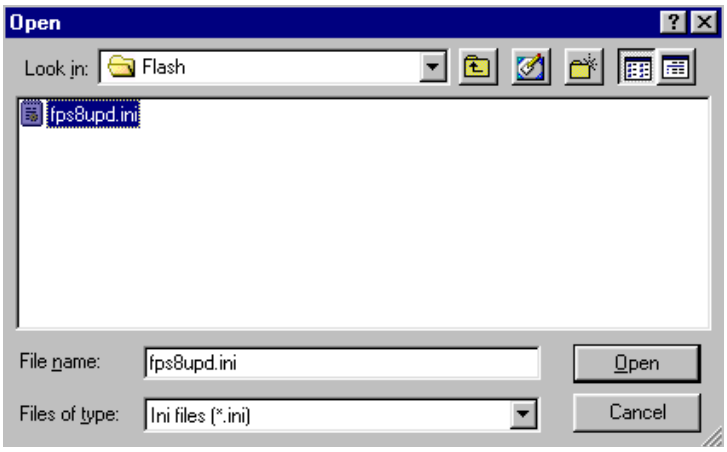
You can also update FPS-8 sw by pressing the "Update" button and selecting the appropriate **fps8upd.ini** file from the *C:\Program Files\Nokia\Phoenix***Flash** directory



All files can be loaded separately to FPS-8. To do this, just press the right mouse button in the "Flash box files" window and select the desired file type. More information and help can be found from the "Help" dialog.

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Activating and Deactivating FPS-8

Before the FPS-8 can be successfully used for phone programming, it must be first activated.

If there is a need to send the FPS-8 box to somewhere, e.g. for repair, the box must be first deactivated.

Activating FPS-8

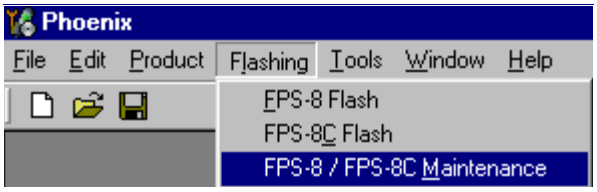
To activate FPS-8:

1 First, fill in the "FPS-8 activation request" sheet included in the FPS-8 sales package and follow the instructions given in the sheet.

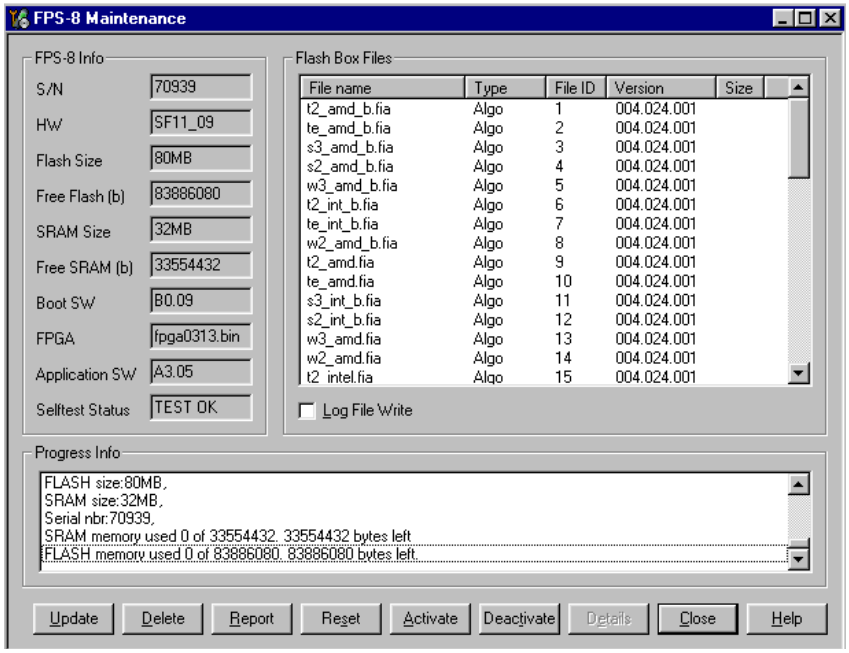
2 When you have received the activation file (e.g. 00000.in), copy it to *C:\Program-Files\Nokia\Phoenix\BoxActivation* directory (this directory is created when Phoenix is installed).

3 Start Phoenix service software.

4 From the "Flashing" menu, choose "FPS-8 maintenance".



5 In the "FPS-8 Maintenance" window, click "Activate".



6 The activation file you saved to *C:\ProgramFiles\Nokia\Phoenix\BoxActivation* is

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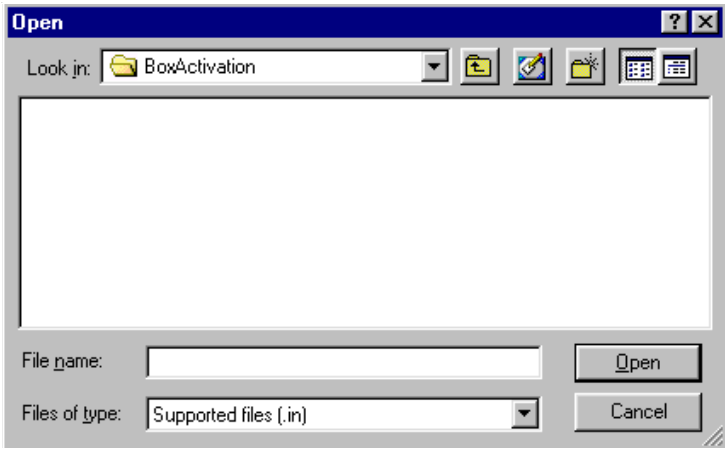
displayed (e.g. 00000.in), check that it is correct.



7 To activate the box, click "Open".

8 To complete the activation, turn FPS-8 power off and on.

Deactivating FPS-8

To deactivate FPS-8:

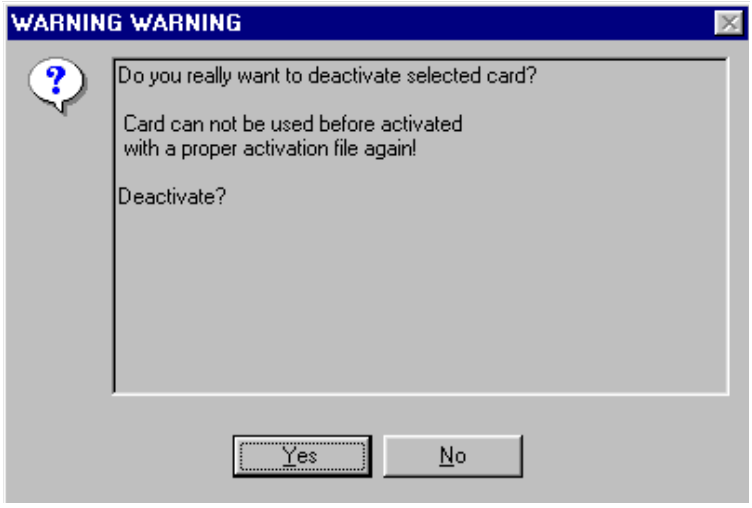
1 Start Phoenix service software.

2 From the "Flashing" menu, choose "FPS-8 Maintenance".

3 In the "FPS-8/8C Maintenance" window, click "Deactivate".

4 To confirm deactivation, click "Yes".

The box is deactivated.



5 To complete deactivation, turn FPS-8 power off and on.

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JBV-1 Docking Station SW

The JBV-1 docking station is a common tool for all DCT-4 generation products. In order to make the JBV-1 usable with different phone models, a phone specific docking station adapter is used for different service functions.

The JBV-1 docking station contains software (firmware) which can be updated.

You need the following equipment to be able to update JBV-1 software:

- PC with USB connection
- Operating System supporting USB (Not Win 95 or NT)
- USB cable (can be purchased from shops or suppliers providing PC hardware and accessories)
- JBV-1 docking station
- External power supply 11-16V

Before installation

Download the *Jbv1_18_update.zip* file to your computer (e.g. C:\TEMP) from your download web site.

Close all other programs.

Follow instructions on the screen.

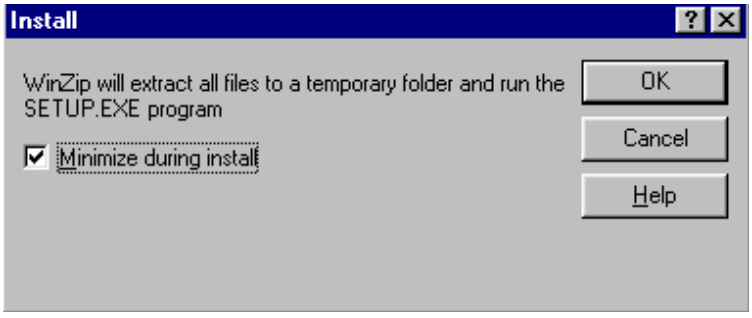
Installing SW needed for the JBV-1 SW update

Note: DO NOT CONNECT THE USB CABLE / JBV-1 TO YOUR COMPUTER YET!

To install the needed SW:

1 To run the *Jbv1_18_update.zip* file, double click "Setup.exe".

Files needed for JBV-1 package setup program are extracted.



Installation begins, please read the information displayed.

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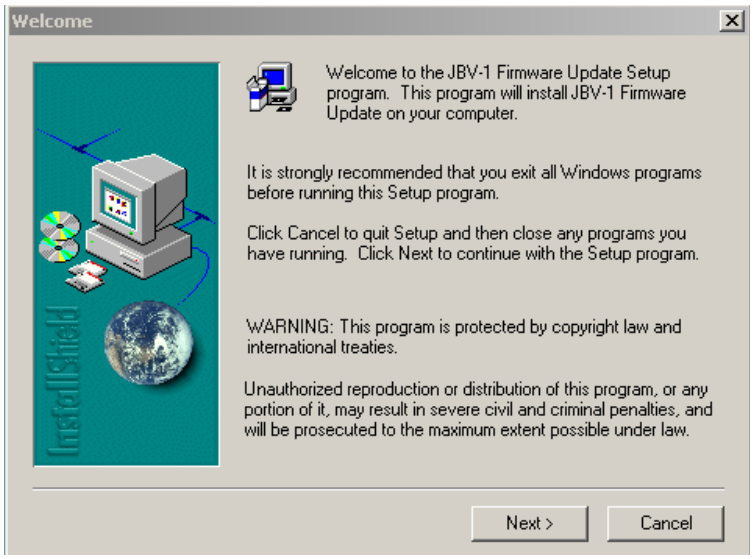
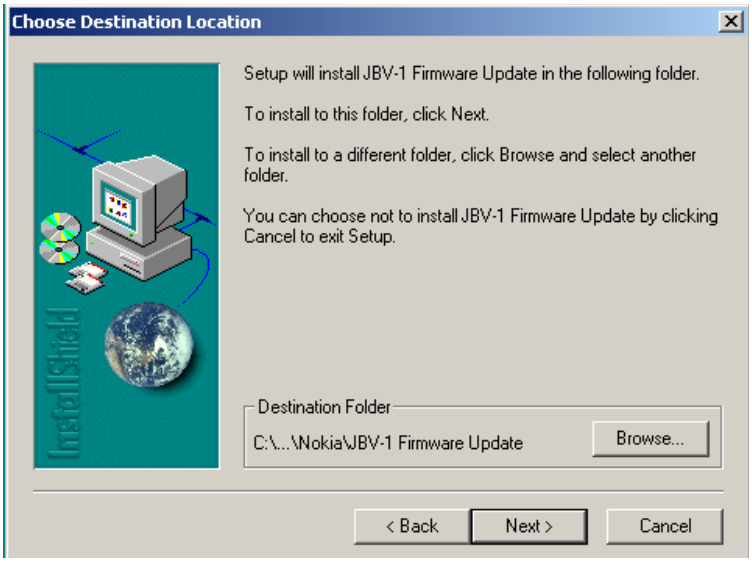
2 To continue, click “Next”.


Welcome
Welcome to the JBV-1 Firmware Update Setup program. This program will install JBV-1 Firmware Update on your computer.
It is strongly recommended that you exit all Windows programs before running this Setup program.
Click Cancel to quit Setup and then close any programs you have running. Click Next to continue with the Setup program.
WARNING: This program is protected by copyright law and international treaties.
Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under law.
InstallShield
Next >
Cancel

3 Use the suggested destination folder where JBV-1 SW package is installed and click “Next” to continue.


Choose Destination Location
Setup will install JBV-1 Firmware Update in the following folder.
To install to this folder, click Next.
To install to a different folder, click Browse and select another folder.
You can choose not to install JBV-1 Firmware Update by clicking Cancel to exit Setup.
Destination Folder
C:\...\Nokia\JBV-1 Firmware Update
Browse...
InstallShield
< Back
Next >
Cancel

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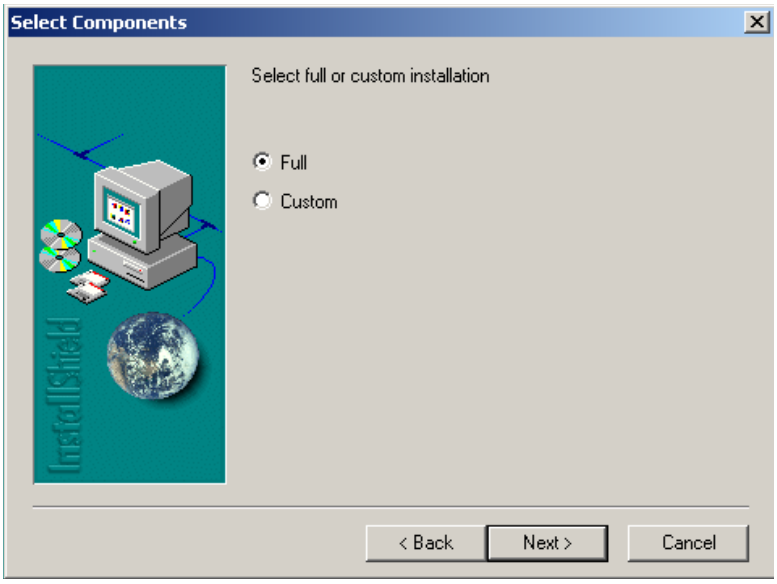
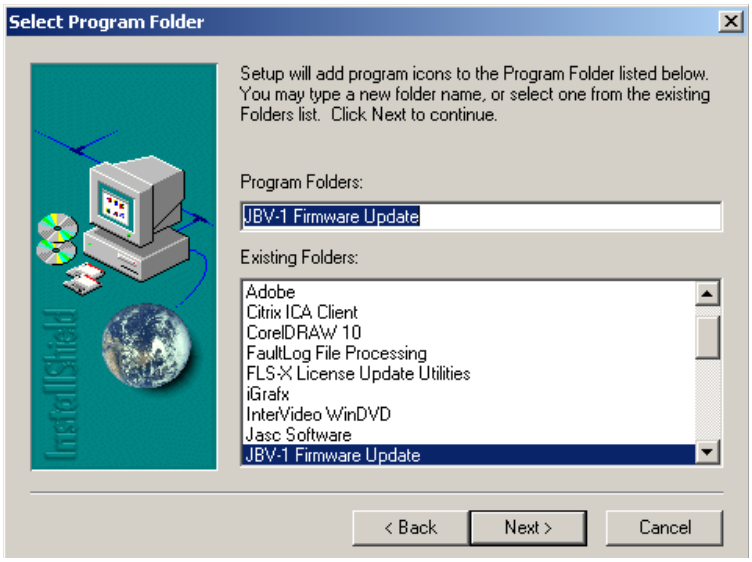
4 To continue, select "Full" and click "Next".



The program folder is created.

5 To continue, click "Next".

Software files are installed.



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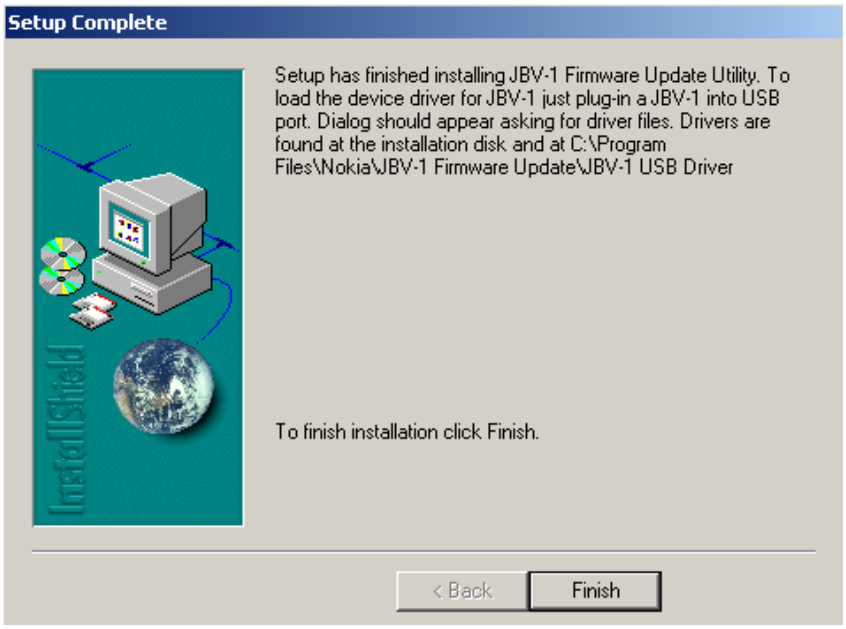
6 After successful installation, click "Finish" to complete.


Setup Complete
Setup has finished installing JBV-1 Firmware Update Utility. To load the device driver for JBV-1 just plug-in a JBV-1 into USB port. Dialog should appear asking for driver files. Drivers are found at the installation disk and at C:\Program Files\Nokia\JBV-1 Firmware Update\JBV-1 USB Driver
To finish installation click Finish.
InstallShield
< Back
Finish

7 Connect the USB cable / JBV-1 to your computer.

8 Connect power to JBV-1 (11-16V DC) from external power supply, then connect USB cable between JBV-1's USB connector and PC.

9 Install or update the JBV-1 USB drivers which are delivered with the JBV-1 SW installation package. They can be found in folder:

C:\Program Files\Nokia\ JBV-1 Firmware Update\JBV-1USB driver

If there is no previously installed JBV-1 firmware update package installed on your computer, Windows detects the connected USB cable and drivers for the new HW. Please follow the instructions and allow Windows to search and install the best drivers available.

If there is a previously installed JBV-1 firmware update package (v 17 or older) on your computer, please update the JBV-1 USB driver. Please see the *readme.txt* file under:

C:\Program Files\Nokia\ JBV-1 Firmware Update\JBV-1USB driver

for instructions on how to update the JBV-1 USB driver.

After you have installed or updated the JBV-1 USB driver, the actual JBV-1 SW update begins.

10 Go to folder *C:\Program Files\Nokia\JBV-1 Firmware Update\JBV-1 Firmware Update.*

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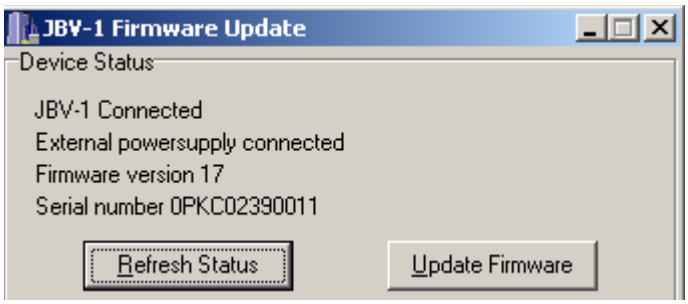
11 To start JBV-1 SW update, double click **fwup.exe**.

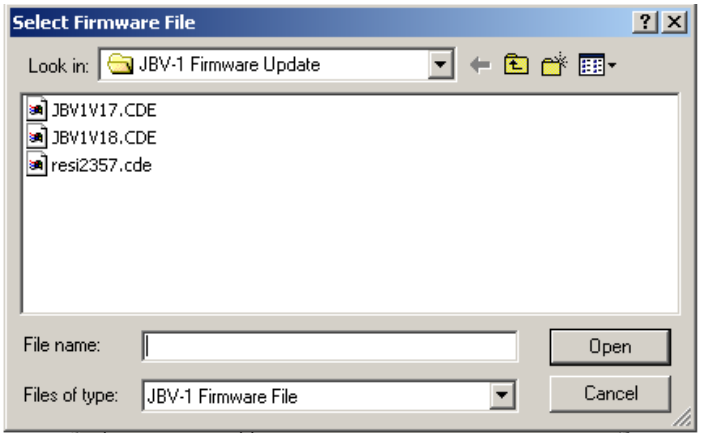
JBV-1 firmware update starts and shows the current status of the connected JBV-1.

If the firmware version read from your JBV-1 is not the latest one available (v. 17 or older), it needs to be updated to version 18. To do this, click "Update Firmware".

If you simply want to check the SW version, click "Refresh Status".



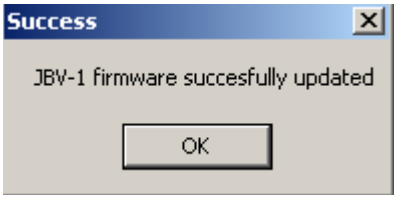
12 To update your JBV-1 to the latest version 18, choose file *JBV1v18.CDE* and "Open".



Please wait, it takes a while until you can hear a "click" from the JBV-1.

The older sw file JBV1v17.CDE is visible in this view only if the previous JBV-1 SW package has been installed on your computer.

13 Click "OK".



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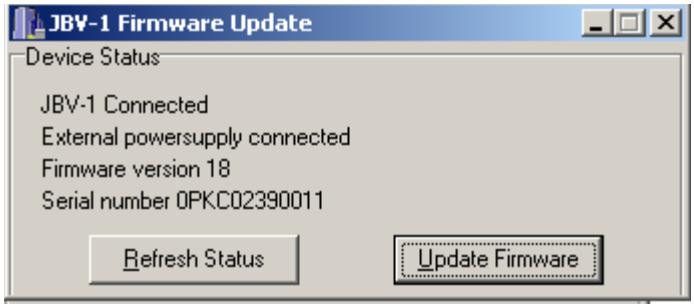
After a successful update and after choosing "OK" the current JBV-1 status is displayed



You have now updated the JBV-1 software and it is ready for use.

If you have several docking stations you need to update, disconnect the power & USB cables from the previous one and connect them to the next docking station.

After you have updated all docking stations, close the "JBV-1 Firmware Update" dialog.

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Quick Guide for Tuning RH-26* with Phoenix

RF tunings should be made in the same order as shown in this document. The order of the corresponding menu items in the Phoenix service SW may be different.

If baseband tunings are needed, they should be made before the RF tunings.

Avoid unnecessary tuning; factory-tuning values are always the most accurate ones.

Views in this document may change as the service software is developed. Please refer to the Phoenix help files, phone model specific service manual and bulletins for help.

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Service Tool Concept for Baseband Tunings

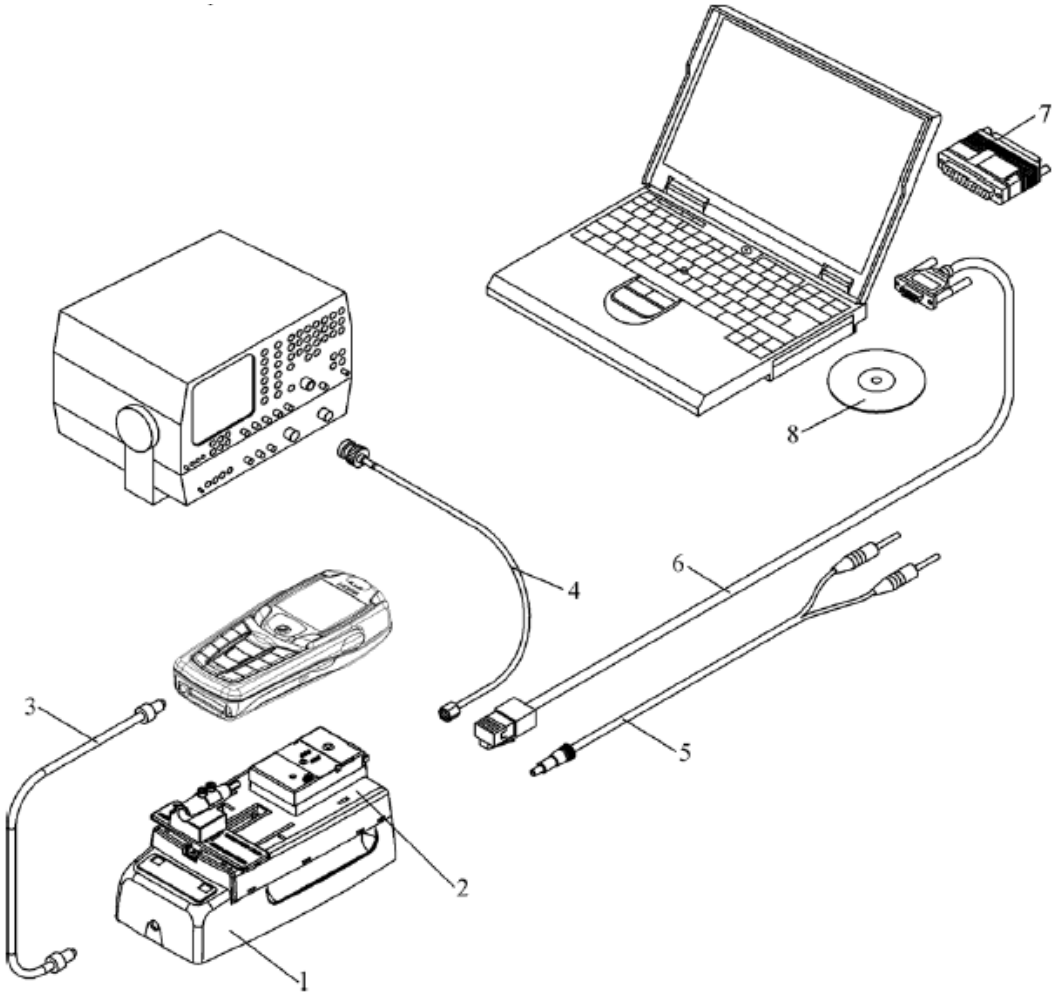
EM calibrations should be carried out in the JBV-1 docking station equipped with the DA-6 docking station adapter.

Note: RF tunings must be carried out in MJ-5 module jig,

Power to JBV-1 should be supplied from an external DC power supply, not from the FPS-8 prommer.

JBV-1 input voltages:

- Maximum + 16 VDC
- Nominal input for RF tunings is +12 V DC
- Maximum input voltage is 16 V DC, nominal input for tunings is +12V DC.



Item	Service accessory	Type	Product code
1	JBV-1	Docking station	0770298

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Item	Service accessory	Type	Product code
2	DA-6	Docking station adapter	0770653
3	SCB-3	DC-DC cable	0730114
4	XRF-1	Antenna cable	0730085
5	PCS-1	DC power cable	0730012
6	DAU-9S	Service MBUS cable	0730108
7	PKD-1	Software protection key (Dongle)	0750018
8	SW		

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Baseband Tunings

Energy management tuning

External power supply is needed.

EM calibration is used for calibrating battery and charger settings of the phone.

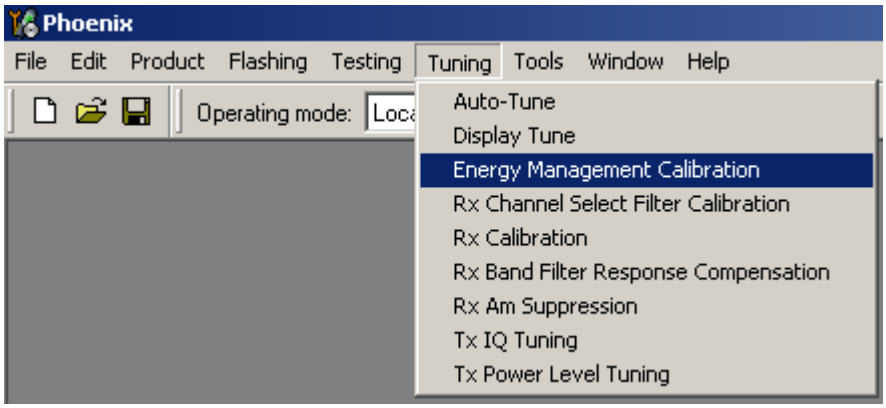
To calibrate:

1 Connect the DC Cable SCB-3 between JBV-1 and the Vin of phone for charger calibration.

2 Connect 12...15 V from power supply to JBV-1.

NOTE! Check that connection is F-BUS (does not work with M-BUS!).

3 From the "Tuning" menu, choose "Energy Management Calibration".



Energy Management values to be calibrated are checked.

4 To show current values in the phone and to check that the communication works, click "Read From Phone".

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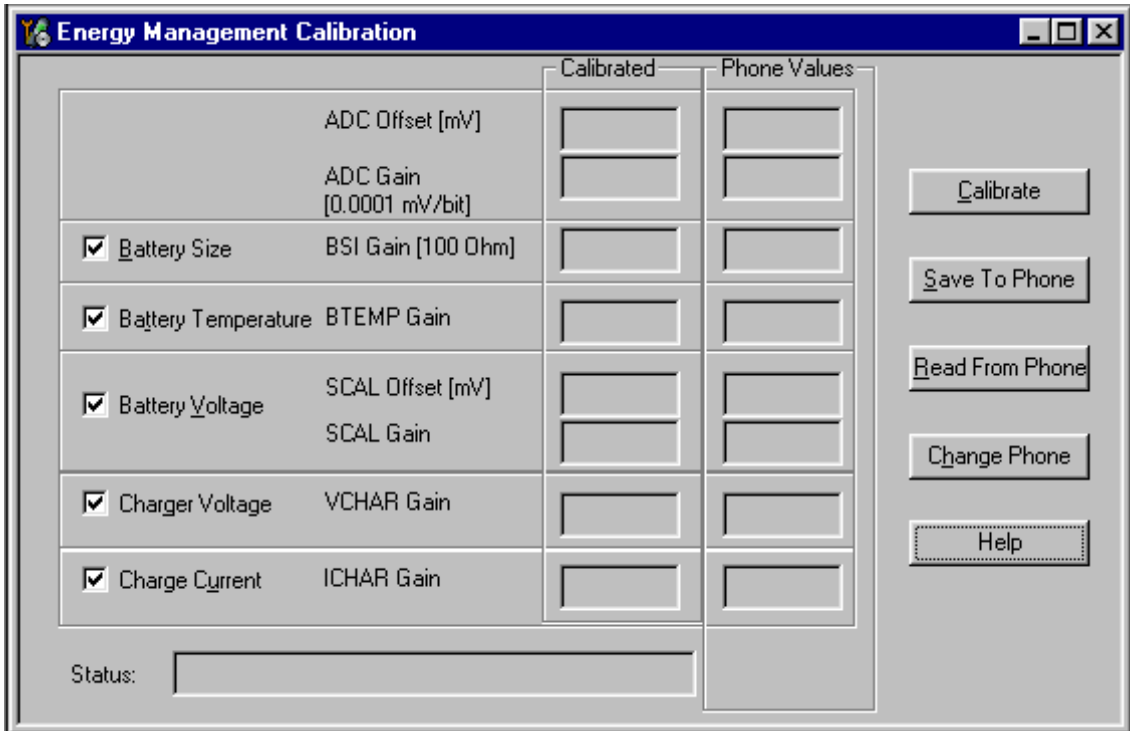
5 To run the selected calibrations, click "Calibrate".



	Min	Max
ADC gain	25400	29000
ADC offset	-100	100
BSI gain	860	1180
BTEMP gain	1980	2280
VBAT gain	10000	11000
VBAT offset	2300	2700
VCHAR	58500	62000
ICHAR	3850	4650

6 If values shown are within limits, click "Save To Phone" to save values to phone.

NOTE! Only values of the checked tunings (battery size, battery temperature etc.) are saved.

7 To end tuning, close the "Energy Management Calibration" dialog.

Tuning LCD contrast

External equipment is not needed.

This function is used to calibrate the LCD contrast.

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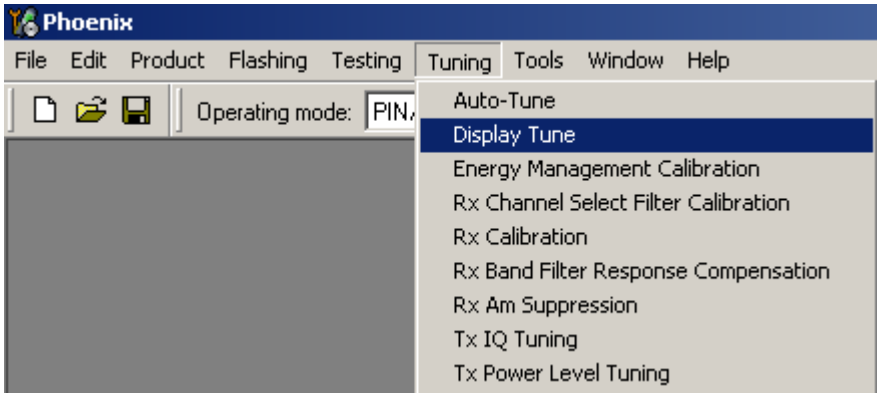
Tuning is necessary only if there is considerable difference in the contrast or appearance of the LCD after, for example, replacing the LCD module.

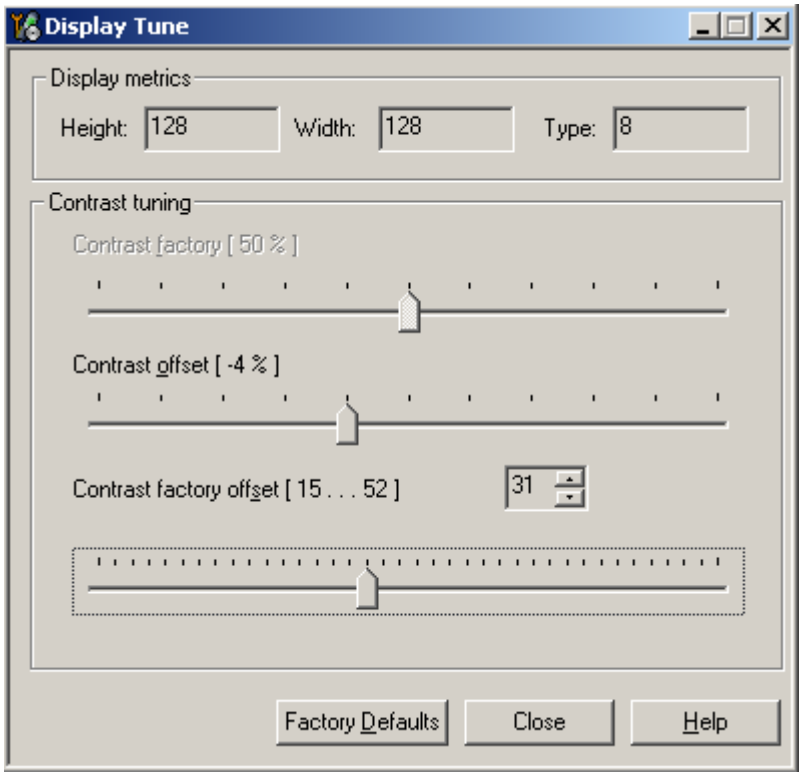
To tune the LCD contrast:

1 From the "Testing" menu, choose **"**Display Tune**".**



2 To tune the display contrast, use the sliders.

3 To end tuning, close the "Display Tune" dialog.



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Service Tool Concept for RF Tunings

All RF tunings for RH-26* phones must be carried out in the MJ-5 module jig.

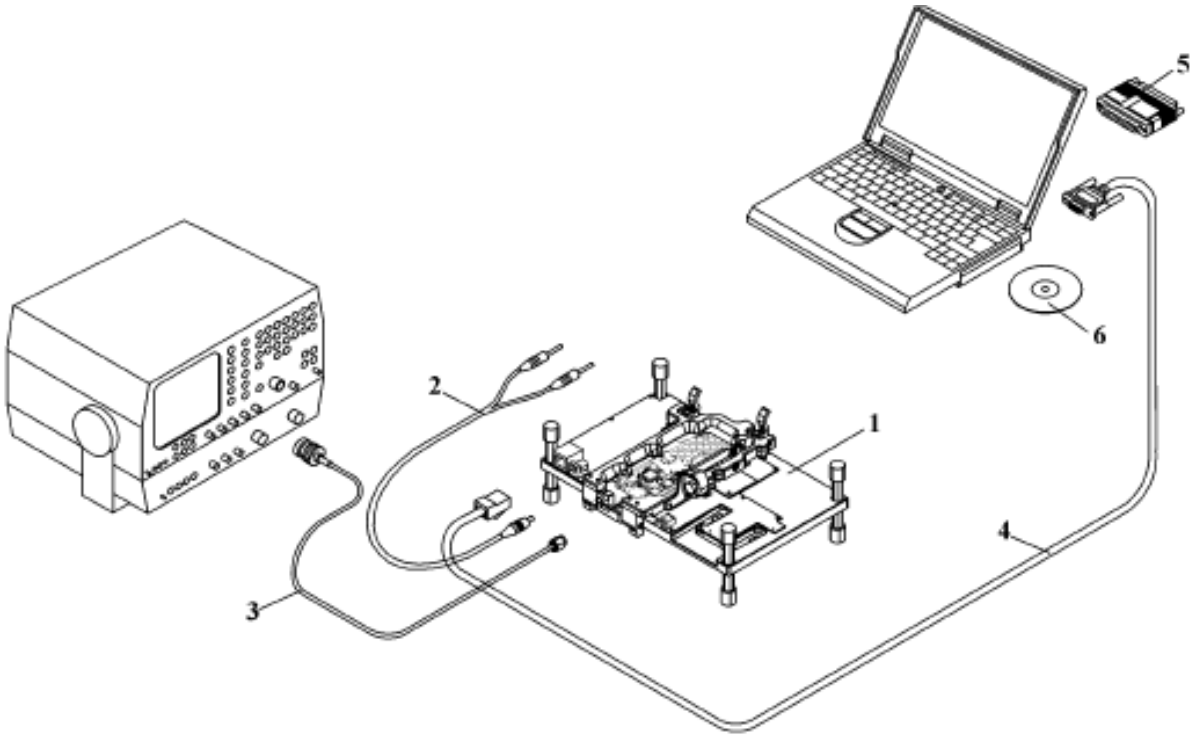
Power to MJ-5 should be supplied from an external DC power supply, not from the FPS-8 prommer.

MJ-5 input voltages:

- Maximum input voltage is +12 VDC
- Nominal input for RF tunings is +8V DC.

Remember cable attenuation when setting the required RF levels.

NOTE! RF tunings should be made in the same order as shown in this document. The order of the corresponding menu items in the Phoenix service software may be different.



Item	Type	Description	Product code
1	MJ-5	Module jig	0770651
2	PCS-1	DC power cable	0730012
3	XRF-1	RF antenna cable	0730085
4	DAU-9S	Service MBUS cable	0730108
5	PKD-1	Software protection key (Dongle)	0750018
6	SW		

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Receiver Tunings

Calibrating RX channel select filter

Extra equipment or an external RF signal is not needed.

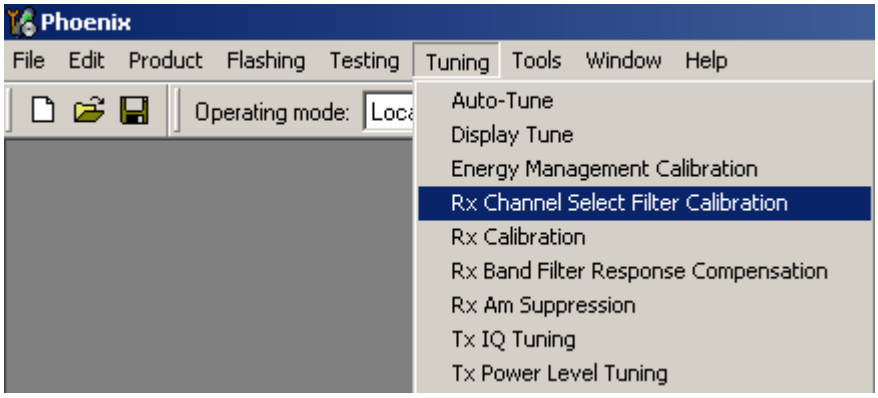
Must be done before other RX calibrations.

This function is used to calibrate RX channel select filter in GSM phones.

Rx channel select filter is tuned only in one (lowest) band, meaning that there is only single calibration for all bands.

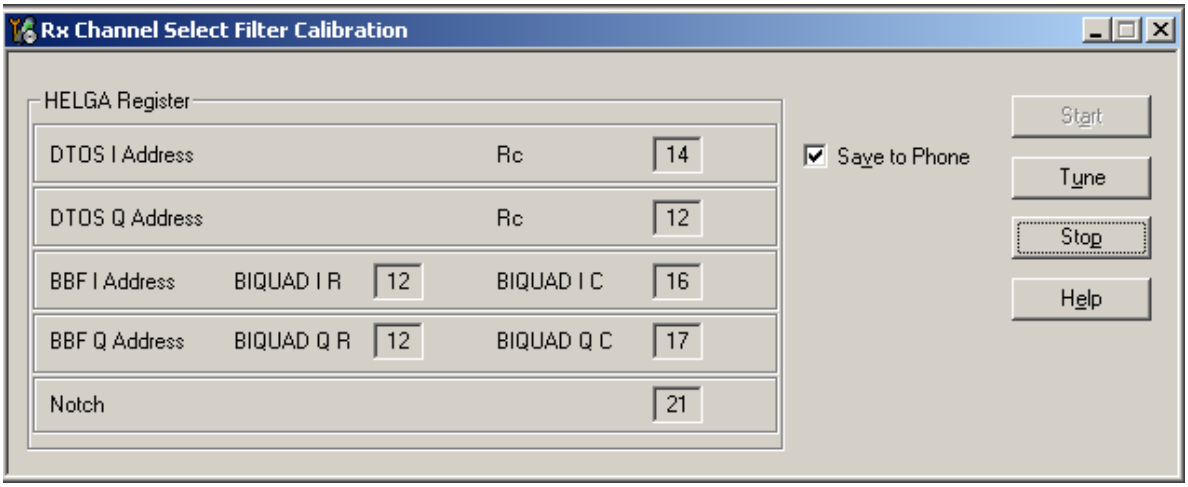
To calibrate:

1 From the "Tuning" menu, choose Rx Channel Select Filter Calibration.



Values are saved to phone when the "Save to Phone" check box is checked. If the "Save to Phone" check box is unchecked, the values are not saved to the phone when you stop the tuning or exit the dialog.

2 To start the tuning, click "Tune".



Tuning values should be 0...31.

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3 click “Stop”.

4 To end tuning, close the “RX Channel Select Filter Calibration“ dialog.

RX calibration

RF generator is needed.

This tuning performs RX calibration.

Must be done separately on all bands!

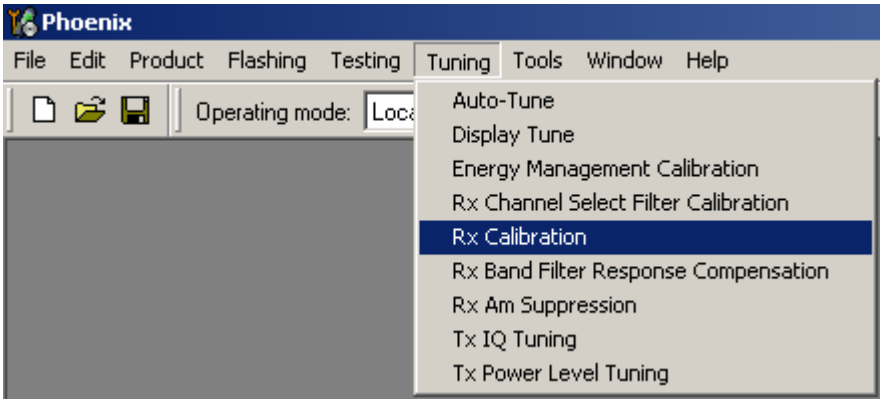
RX calibration is done first at EGSM (GSM850), then continues at the GSM1800 band and finally ends at the GSM1900 band.

AFC tuning is done while EGSM (GSM850) band RX calibration is performed.

Remember to take jig and cable attenuations into account!

To calibrate:

1 From the “Tuning” menu, choose Rx Calibration.



Calibrating EGSM850 band

2 To begin, click “Start”.

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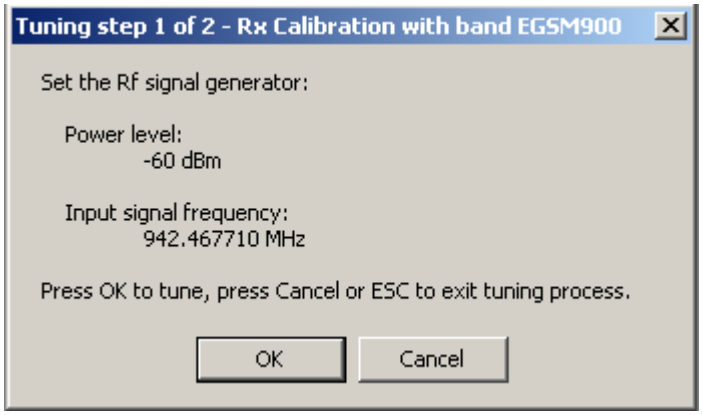
3 Set RF generator to required EGSM850 frequency => OK.


Tuning step 1 of 2 - Rx Calibration with band EGSM900
Set the Rf signal generator:
Power level:
-60 dBm
Input signal frequency:
942.467710 MHz
Press OK to tune, press Cancel or ESC to exit tuning process.
OK
Cancel

Tuning values and ADC readings are displayed.

Typical values and limits in (GSM850) RX Calibration:

EGSM (GSM850)	Typical value	Limits
AFC value	-90	-350...+350
AFC slope	270	150...350
RSSI0	65.09375	58...68
RSSI1	71.09375	64...74
RSSI2	76.96025	70...80
RSSI3	82.90625	76...86
RSSI4	88.90625	82...92
RSSI5	93.71875	88...98
RSSI6	99.71875	94...104
RSSI7	105.53125	100...110
RSSI8	111.53125	106...116
RSSI9	117.53125	112...122
RSSI10	123.53125	118...128
RSSI11	129.53125	124...134
RSSI12	135.53125	130...140
RSSI13	141.53125	136...146
RSSI14	147.53125	142...152

4 Tuning moves automatically to the next band (GSM1800), when you click "Save & Continue".

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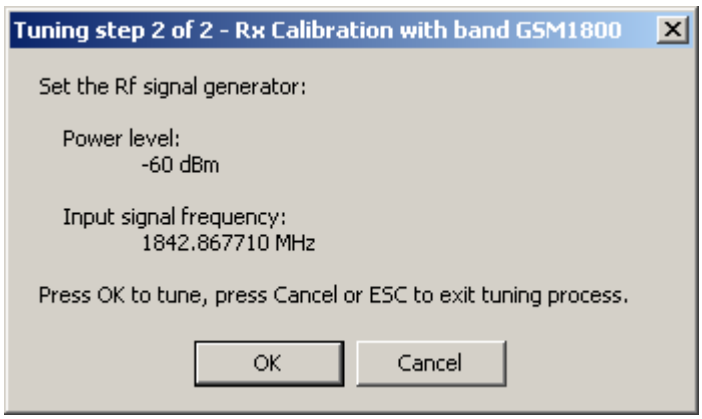
Calibrating GSM1800 band

5 When asked, set RF generator to the required GSM 1800 frequency => OK.


Tuning step 2 of 2 - Rx Calibration with band GSM1800
Set the Rf signal generator:
Power level:
-60 dBm
Input signal frequency:
1842.867710 MHz
Press OK to tune, press Cancel or ESC to exit tuning process.
OK
Cancel

Tuning values and ADC readings are displayed.

Typical values and limits in (GSM1800) RX Calibration:

GSM1800	Typical value	Limits
RSSI0	62.40625	58...68
RSSI1	68.40625	64...74
RSSI2	74.265625	70...80
RSSI3	80.265625	76...86
RSSI4	86.265625	82...92
RSSI5	91.859375	88...98
RSSI6	97.859375	94...104
RSSI7	103.71875	100...110
RSSI8	109.71875	106...116
RSSI9	115.71875	112...122
RSSI10	121.71875	118...128
RSSI11	127.71875	124...134
RSSI12	133.71875	130...140
RSSI13	139.71875	136...146
RSSI14	145.71875	142...152

6 Tuning automatically continues to the next band (GSM1900) when you click "Save & Continue".

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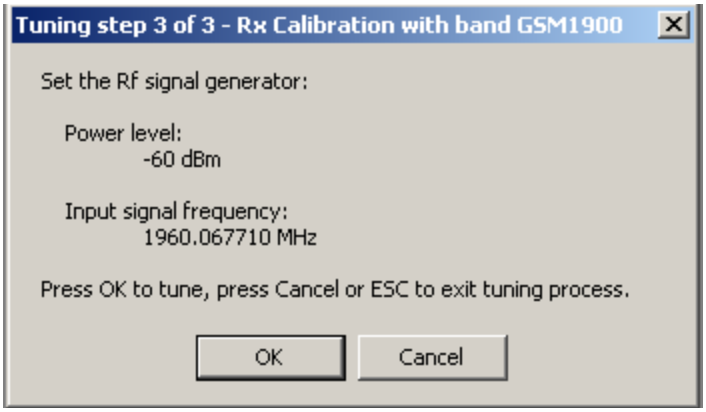
Calibrating GSM1900 band

7 Set RF generator to required GSM1900 frequency => OK.


Tuning step 3 of 3 - Rx Calibration with band GSM1900
Set the Rf signal generator:
Power level:
-60 dBm
Input signal frequency:
1960.067710 MHz
Press OK to tune, press Cancel or ESC to exit tuning process.
OK
Cancel

Tuning values and ADC readings are displayed.

Typical values and limits in (GSM1900) RX Calibration:

GSM1900	Typical value	Limits
RSSI0	66.25	61...71
RSSI	72.25	67...77
RSSI2	78.09375	73...83
RSSI3	84.09375	79...89
RSSI4	90.09375	85...95
RSSI5	93.25	88...98
RSSI6	99.25	94...104
RSSI7	105.09375	100...110
RSSI8	111.09375	106...116
RSSI9	117.09375	112...122
RSSI1	123.09375	118...128
RSSI11	129.09375	124...134
RSSI12	135.09375	130...140
RSSI13	141.09375	136...146
RSSI14	147.09375	142...152

8 To complete tuning, click "Save & Continue".

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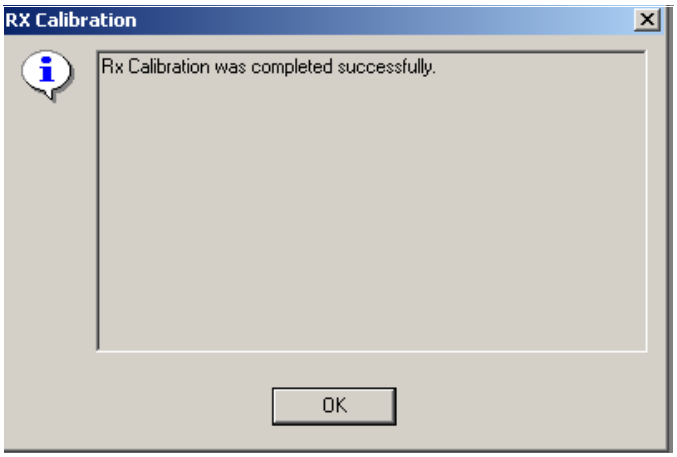
9 To end tuning, close the "RX Calibration" dialog.



RX band filter response compensation

RF generator is needed.

Must be done separately on all bands!

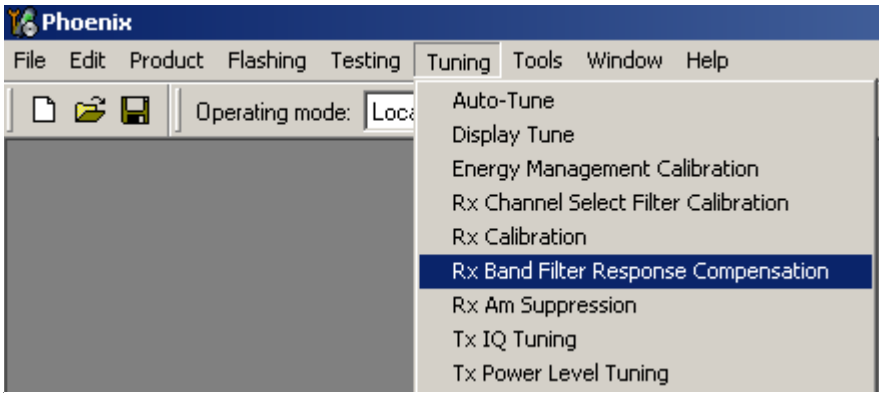
Start RX calibration at EGSM (GSM850), then continue at GSM1800 band and finally at the GSM1900 band.

Remember to do RX calibration before doing Rx band filter response compensation!

Remember to take jig and cable attenuations into account!

To calibrate:

1 From the "Tuning" menu, choose "Rx Band Filter Response Compensation".



2 Select "Manual tuning" and click "Start".

You are asked to supply 9 different RF frequencies to the phone on each band.

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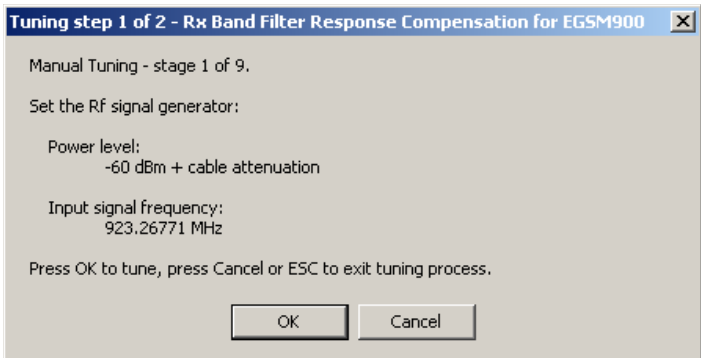
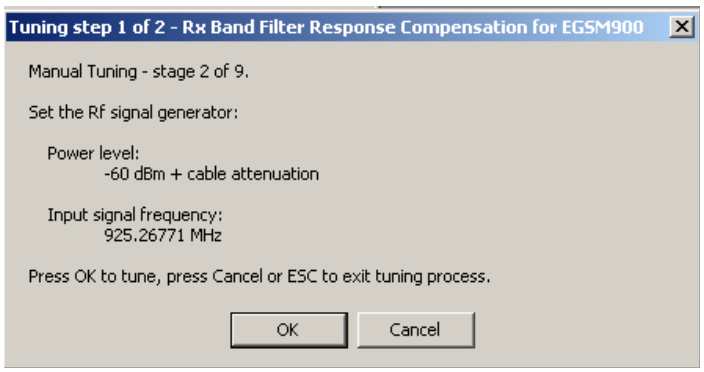
The tuning begins from the EGSM850 band and continues the same way for the GSM1800 and GSM1900 bands.

EGSM850 band

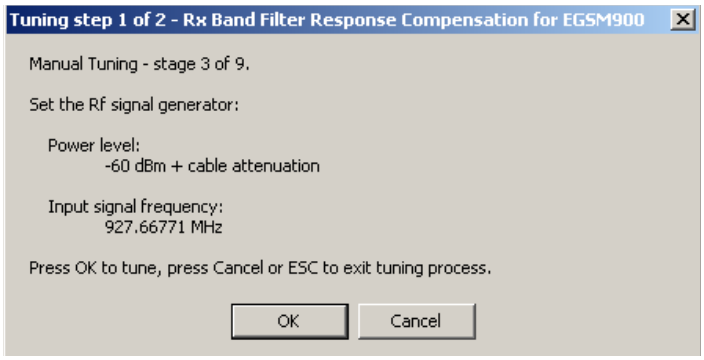
3 Set first required frequency and level => OK.


Tuning step 1 of 2 - Rx Band Filter Response Compensation for EGSM900
Manual Tuning - stage 1 of 9.
Set the Rf signal generator:
Power level:
-60 dBm + cable attenuation
Input signal frequency:
923.26771 MHz
Press OK to tune, press Cancel or ESC to exit tuning process.
OK
Cancel

4 Set 2nd required frequency and level => OK.


Tuning step 1 of 2 - Rx Band Filter Response Compensation for EGSM900
Manual Tuning - stage 2 of 9.
Set the Rf signal generator:
Power level:
-60 dBm + cable attenuation
Input signal frequency:
925.26771 MHz
Press OK to tune, press Cancel or ESC to exit tuning process.
OK
Cancel

5 Set 3rd required frequency and level => OK.


Tuning step 1 of 2 - Rx Band Filter Response Compensation for EGSM900
Manual Tuning - stage 3 of 9.
Set the Rf signal generator:
Power level:
-60 dBm + cable attenuation
Input signal frequency:
927.66771 MHz
Press OK to tune, press Cancel or ESC to exit tuning process.
OK
Cancel

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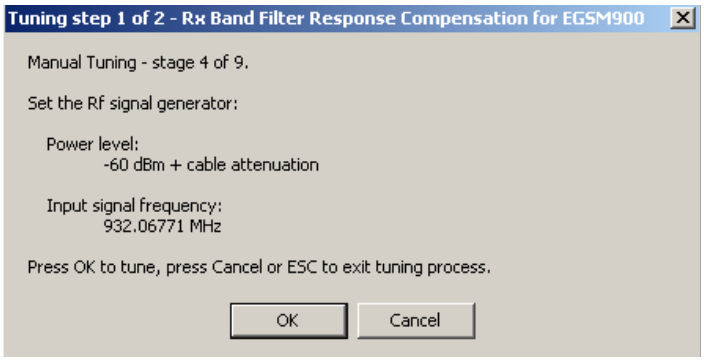
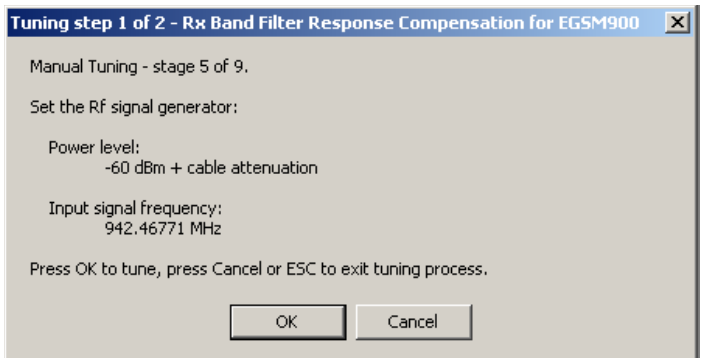
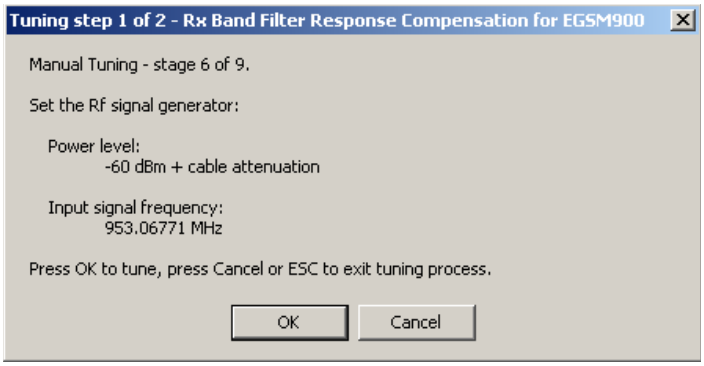
6 Set 4th required frequency and level => OK.


Tuning step 1 of 2 - Rx Band Filter Response Compensation for EGSM900
Manual Tuning - stage 4 of 9.
Set the Rf signal generator:
Power level:
-60 dBm + cable attenuation
Input signal frequency:
932.06771 MHz
Press OK to tune, press Cancel or ESC to exit tuning process.
OK
Cancel

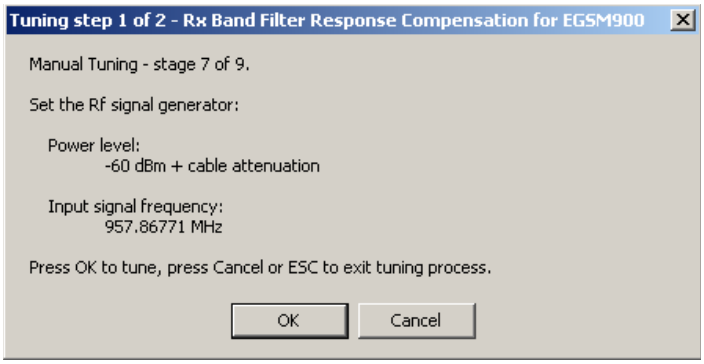
7 Set 5th required frequency and level => OK.


Tuning step 1 of 2 - Rx Band Filter Response Compensation for EGSM900
Manual Tuning - stage 5 of 9.
Set the Rf signal generator:
Power level:
-60 dBm + cable attenuation
Input signal frequency:
942.46771 MHz
Press OK to tune, press Cancel or ESC to exit tuning process.
OK
Cancel

8 Set 6th required frequency and level => OK.


Tuning step 1 of 2 - Rx Band Filter Response Compensation for EGSM900
Manual Tuning - stage 6 of 9.
Set the Rf signal generator:
Power level:
-60 dBm + cable attenuation
Input signal frequency:
953.06771 MHz
Press OK to tune, press Cancel or ESC to exit tuning process.
OK
Cancel

9 Set 7th required frequency and level => OK.


Tuning step 1 of 2 - Rx Band Filter Response Compensation for EGSM900
Manual Tuning - stage 7 of 9.
Set the Rf signal generator:
Power level:
-60 dBm + cable attenuation
Input signal frequency:
957.86771 MHz
Press OK to tune, press Cancel or ESC to exit tuning process.
OK
Cancel

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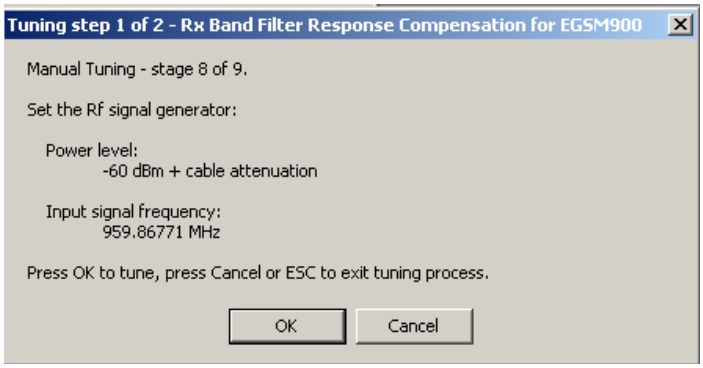
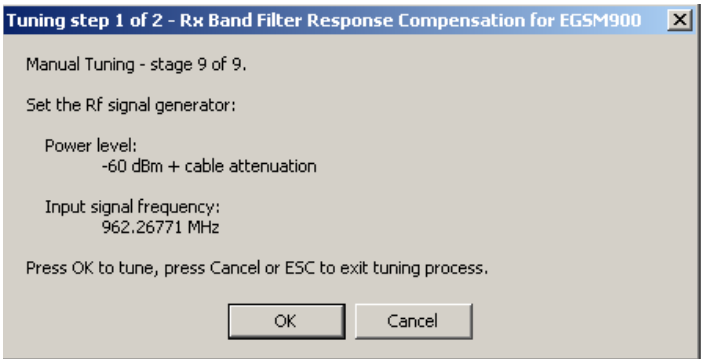
10 Set 8th required frequency and level => OK.


Tuning step 1 of 2 - Rx Band Filter Response Compensation for EGSM900
Manual Tuning - stage 8 of 9.
Set the Rf signal generator:
Power level:
-60 dBm + cable attenuation
Input signal frequency:
959.86771 MHz
Press OK to tune, press Cancel or ESC to exit tuning process.
OK
Cancel

11 Set 9th required frequency and level => OK.


Tuning step 1 of 2 - Rx Band Filter Response Compensation for EGSM900
Manual Tuning - stage 9 of 9.
Set the Rf signal generator:
Power level:
-60 dBm + cable attenuation
Input signal frequency:
962.26771 MHz
Press OK to tune, press Cancel or ESC to exit tuning process.
OK
Cancel

Tuning values and ADC readings are displayed.

Typical values and limits in Rx Band Filter Response Compensation EGSM850:

Channel	Input frequency (MHz)	Measured level difference (dB)	Limits (dB)
965	923.26771	-1.266	-10...+3.5
975	925.26771	-0.641	-3.5...+3.5
987	927.66771	-0.188	-3.5...+3.5
1009	932.06771	-0.094	-3.5...+3.5
37	942.46771	-0.188	-3.5...+3.5
90	953.06771	0.391	-3.5...+3.5
114	957.86771	-0.266	-3.5...+3.5
124	959.86771	-0.359	-3.5...+3.5
136	962.26771	-0.453	-10...+3.5

12 Tuning continues automatically in the next band (GSM1800) when you click "Save & Continue".

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GSM1800 band

13 Repeat the same steps as for the EGSM850 band above.

Typical values and limits in Rx Band Filter Response Compensation GSM1800:

Channel	Input frequency (MHz)	Measured level difference (dB)	Limits (dB)
497	1802.26771	-1.578	-10...+3.5
512	1805.26771	-1.281	-3.5...+3.5
535	1809.86771	-1.188	-3.5...+3.5
606	1824.06771	-0.422	-3.5...+3.5
700	1842.86771	-0.125	-3.5...+3.5
791	1861.06771	0.016	-3.5...+3.5
870	1876.86771	0.094	-3.5...+3.5
885	1879.86771	0.016	-3.5...+3.5
908	1884.46771	-0.047	-10...+3.5

14 Tuning continues automatically in the next band (GSM1900) when you click "Save & Continue".

GSM1900 band

15 Repeat the same steps as for the EGSM850 and GSM1800 bands above.

Typical values and limits in Rx Band Filter Response Compensation GSM1900:

Channel	Input frequency (MHz)	Measured level difference (dB)	Limits (dB)
496	1927.06771	-1.547	-10...+3.5
512	1930.26771	-0.625	-3.5...+3.5
537	1935.26771	-0.406	-3.5...+3.5
586	1945.06771	0.219	-3.5...+3.5
661	1960.06771	-0.188	-3.5...+3.5
736	1975.06771	-0.188	-3.5...+3.5
794	1986.66771	-0.75	-3.5...+3.5
810	1989.86771	-0.875	-3.5...+3.5
835	1994.86771	-1	-10... +3.5

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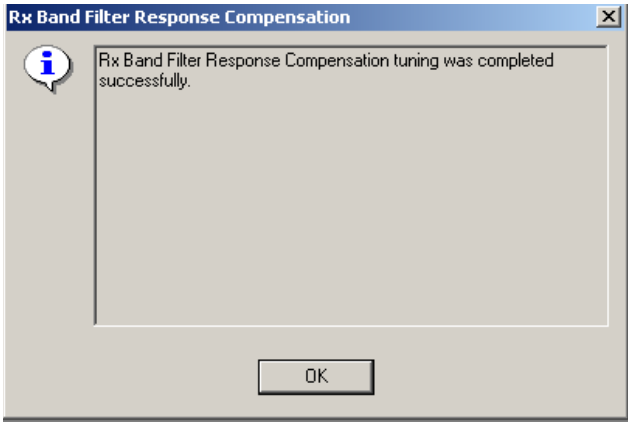
16 To complete tuning, click "Save & Continue".



17 To end tuning, close the "RX Band Filter Response Compensation" dialog.

RX AM suppression

RF generator is needed (AM modulation).

Must be done separately on all bands!

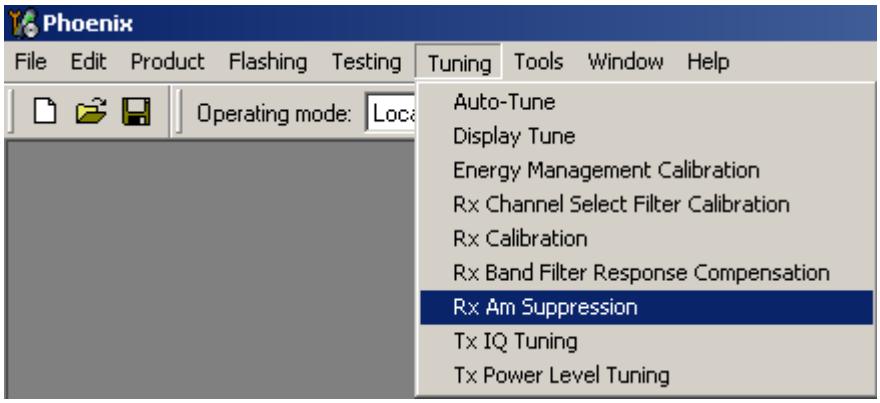
Start RX calibration at EGSM (GSM850), then at GSM1800 band and finally at the GSM1900 band.

This tuning dialog performs RX AM suppression tuning.

Remember to take jig and cable attenuations into account!

To calibrate:

1 From the "Tuning" menu, choose "Rx Am Suppression".



2 Set RF signal generator to correct settings displayed on the left-hand side window.

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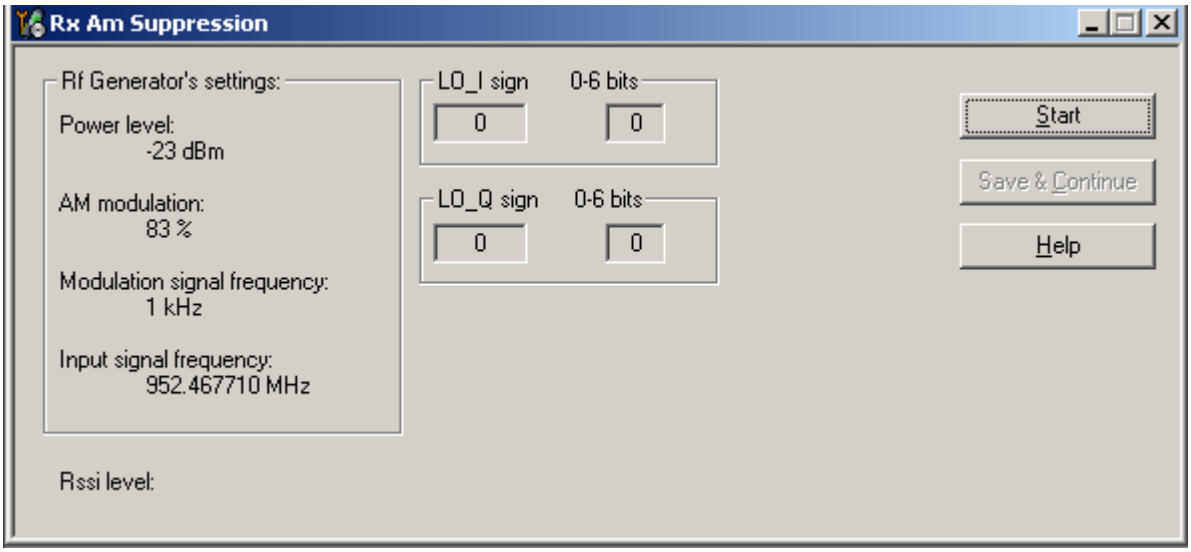
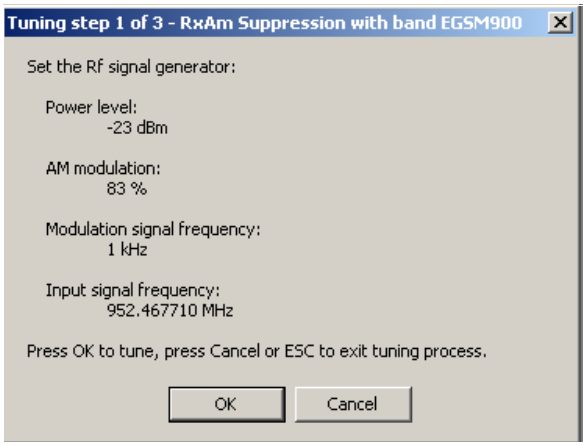
3 To begin tuning, click “Start”.



EGSM850 band

4 Set the required frequency and level => OK.



Rx Am Suppression values received from DSP are displayed in the center part of the window.

Rssi level value displayed at the left bottom part of the window.

One "I" and "Q" line values should be 0, other values 0..31.

RSSI value results vary typically between -88 dBm...-111 dBm at EGSM850,

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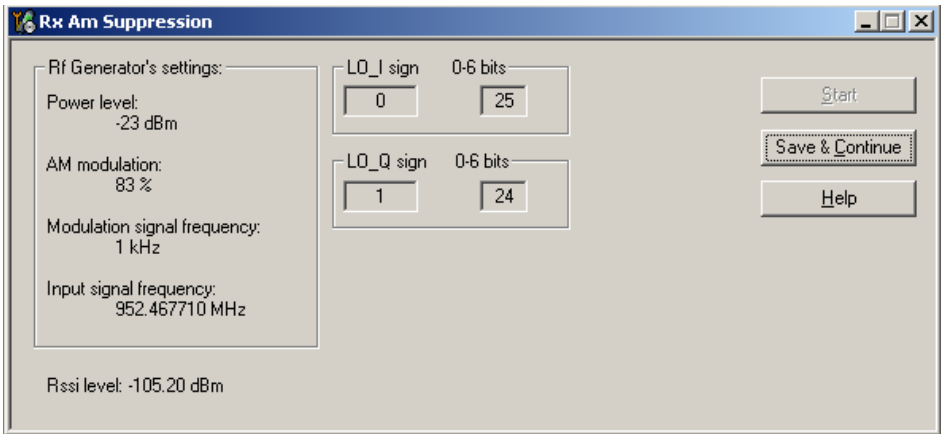
GSM1800 and GSM1900 bands.



5 Tuning automatically continues in the next band (GSM 1800) when you click "Save & Continue".

GSM1800 band

6 Repeat the same steps as for the EGSM850 band above.

Tuning values and ADC readings are displayed.

7 Tuning automatically continues in the next band (GSM 1800) when you click "Save & Continue".

GSM1900 band

8 Repeat the same steps as for the EGSM850 and GSM1800 bands.

Tuning values and ADC readings are displayed.

9 To complete tuning, click "Save & Continue".

10 To end tuning, close the "Rx AM Suppression" dialog.

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Transmitter Tunings

TX I/Q tuning

Spectrum analyzer is needed.

With the help of Tx IQ tuning, you can change the Tx I DC offset, Tx Q DC offset, amplitude difference and phase difference.

Must be done separately on all bands!

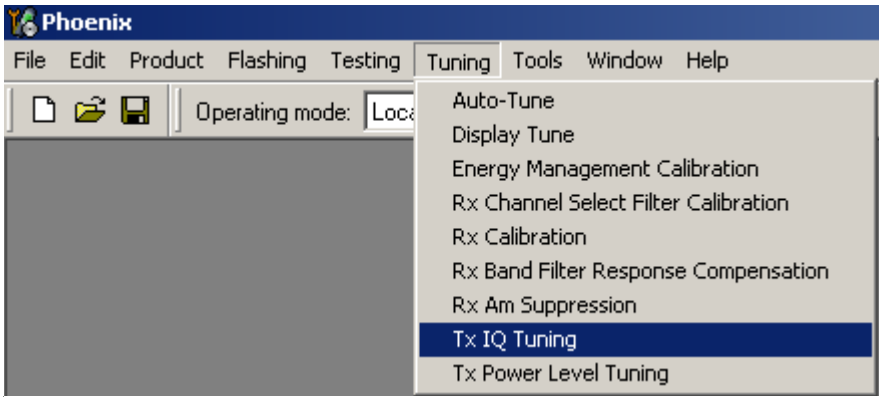
TX I/Q tuning steps are:

- EGSM (GSM850) with EDGE off
- EGSM with EDGE on,
- GSM1800 with EDGE off
- GSM1800 with EDGE on
- GSM1900 with EDGE off
- GSM1900 with EDGE on

Remember to take jig and cable attenuations into account!

To start tuning:

1 From the "Tuning" menu, choose "TX IQ Tuning".



EGSM850 band with EDGE Off

2 To begin tuning at **EGSM 850 band with EDGE off,** click "Start".

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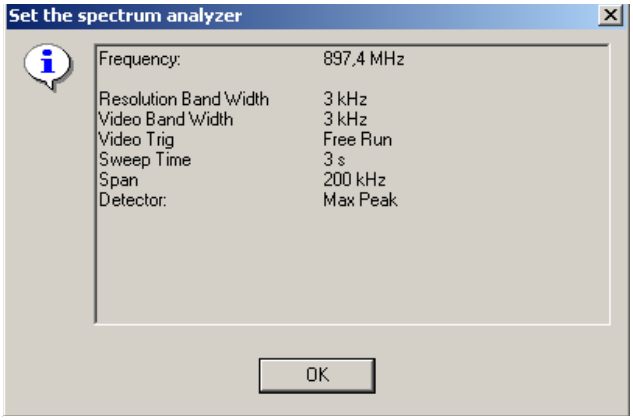
3 Set spectrum analyzer to required settings => OK.

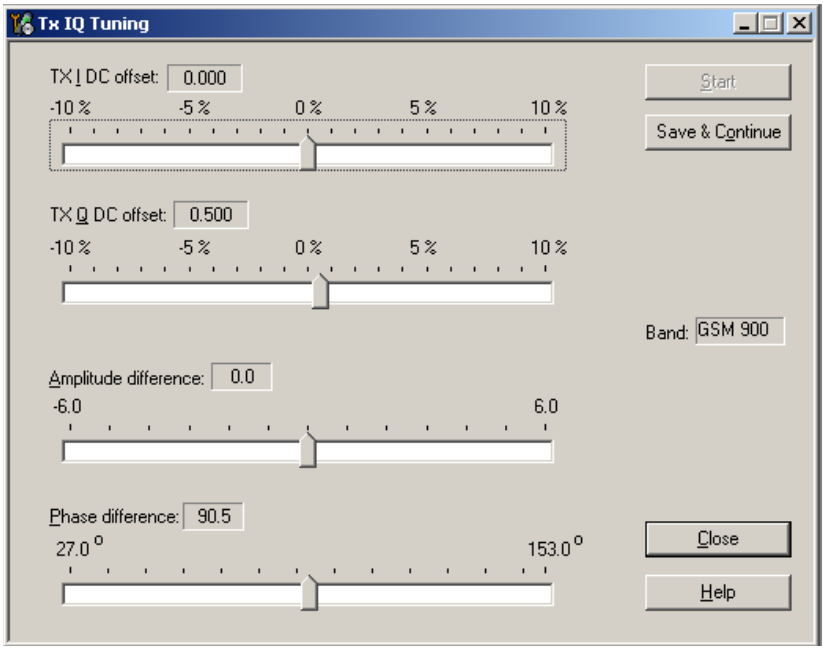


4 To tune, set each of the sliders to a desired value.

Use <= , =>, PgUp or PgDn keys.

The sliders can be changed only when the tuning is ongoing.

The order of tuning should be same as the order of the sliders e.g. the Tx I DC offset is tuned first and phase difference is tuned last.



5 Tune LO leak to minimum with TXI/TXQ DC offset control (**f0 on spectrum analyzer screen**).

6 Tune wrong sideband to minimum using Amplitude/Phase difference controls

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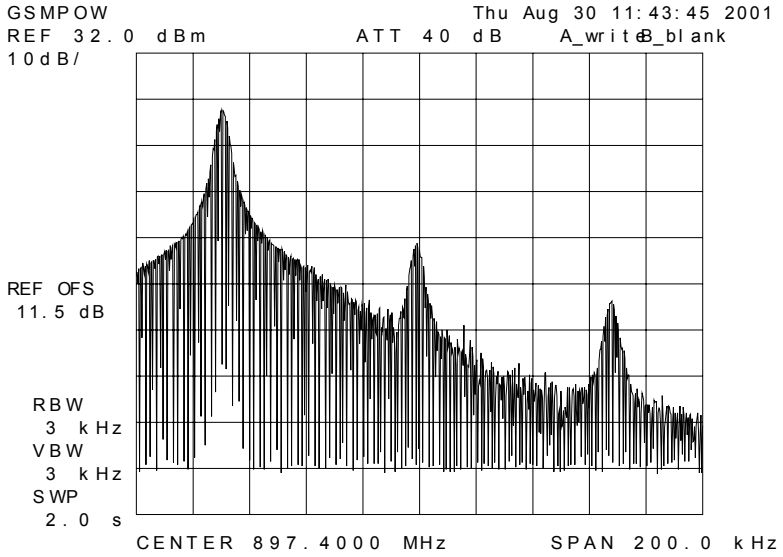
(**f0+68kHz on spectrum analyzer screen**).



Tx IQ Tuning limits are the same for all bands (GSM850, GSM1800 and GSM1900):

I DC Offset	-6...+6
Q DC Offset	-6...+6
Amplitude difference	-1...+1
Phase difference	80°...100°

7 Tuning automatically continues to the next step, **EGSM 850 with EDGE on,** when you click "Save & Continue".

EGSM850 band with EDGE On

1 To begin tuning, click "Start".

2 Set spectrum analyzer to required settings for EGSM 850 band => OK.

3 Repeat the same tuning steps as for the EGSM850 with EDGE off above.

4 Tuning automatically moves to the next step, **EGSM 1800 with EDGE off** when you click "Save & Continue".

EGSM1800 band with EDGE Off

1 To begin tuning, click "Start".

2 Set spectrum analyzer to required settings for GSM1800 band => OK.

3 Repeat the same tuning steps as for the EGSM850 band above.

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4 Tuning automatically moves to the next step, **EGSM 1800 with EDGE on,** when you press "Save & Continue".

GSM1800 band with EDGE On

1 To begin tuning, click "Start".

2 Set spectrum analyzer to required settings for GSM1800 band => OK.

3 Repeat the same tuning steps as for the EGSM850 band above.

4 Tuning automatically moves to the next step, **EGSM 1900 with EDGE off,** when you click "Save & Continue".

GSM1900 band with EDGE Off

1 To begin tuning, click "Start".

2 Set spectrum analyzer to required settings for GSM 1900 band=> OK.

3 Repeat the same tuning steps as for the EGSM850 band above.

4 Tuning automatically moves to the next step, **EGSM 1800 with EDGE on,** when you click "Save & Continue".

GSM 1900 band with EDGE On

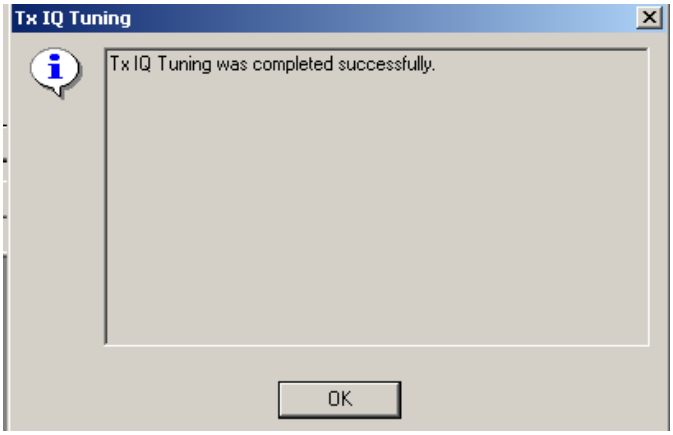
1 To begin tuning, click "Start".

2 Set spectrum analyzer to required settings for GSM 1900 band=> OK.

3 Repeat the same tuning steps as for the EGSM850 band above.

4 To complete tuning, click "Save & Continue".

5 To close the "Tx I/Q Tuning" dialog, click "OK".



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TX power level tuning

Power meter (or spectrum analyzer) is needed

With Tx Power Level Tuning, the coefficients are adjusted for each power level.

Tuning must be done separately on all bands!

When EDGE is on, tuning must be made for all power levels.

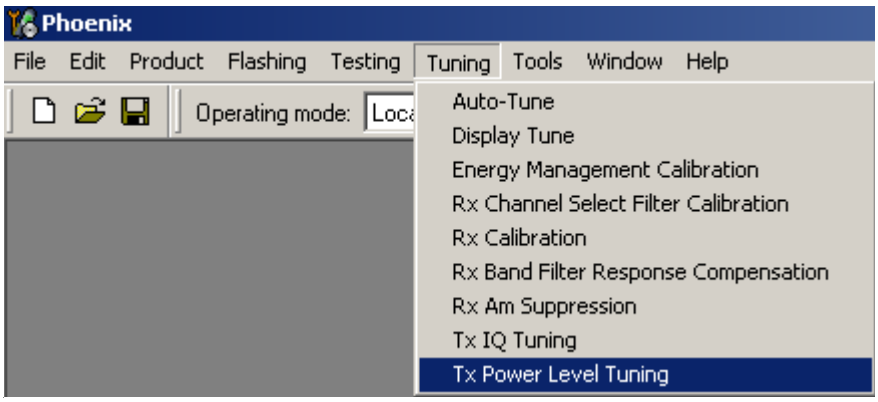
Tx power level tuning steps are:

- EGSM 850 PA High Mode with EDGE off
- EGSM 850 PA Low Mode with EDGE off *(NOT IN USE FOR RH-26)*
- EGSM 850 PA High Mode with EDGE on
- EGSM 850 PA Low Mode with EDGE *on (NOT IN USE FOR RH-26)*
- GSM1800 PA High Mode with EDGE off
- GSM1800 PA High Mode with EDGE on
- GSM1900 PA High Mode with EDGE off
- GSM1900 PA High Mode with EDGE on

Remember to take jig and cable attenuations into account!

To start power level tuning:

1 From the "Tuning" menu, choose**"**Tx Power Level Tuning"**.**



EGSM850 PA high mode with EDGE off

2 Click "Start".

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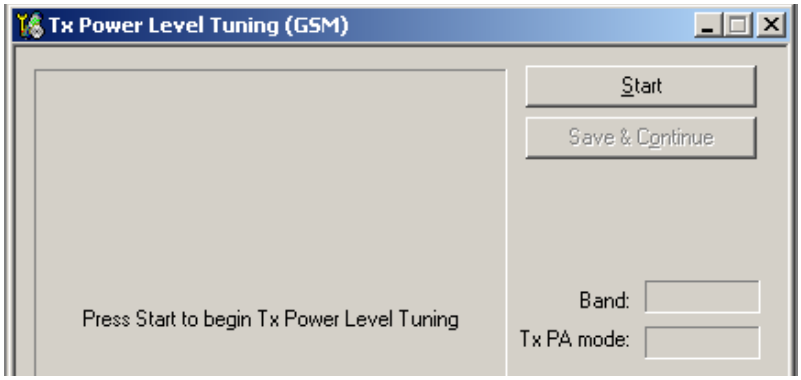
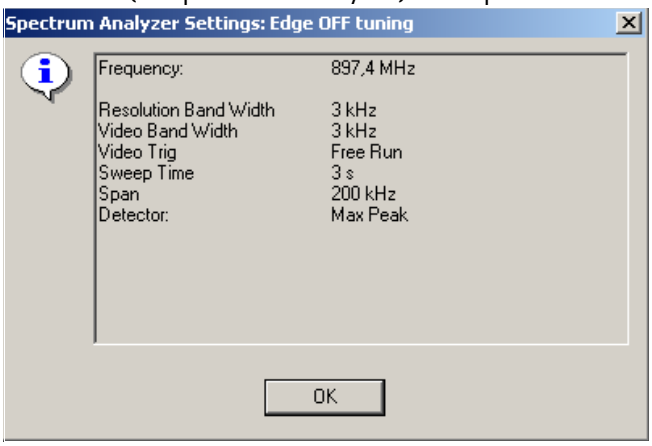
Tuning begins automatically from the EGSM850 band.



3 Set power meter (or spectrum analyzer) as required.



Note that TX PA mode is “High” at this point.

The coefficient table lists the power level, coefficient, target dBm and DAC value for each power level.

4 To choose the tuned power level, use up and down arrows or mouse.

The current power level is shown with inverse colors.

5 **Tune base level and power levels 19,15 and 5** to target level.

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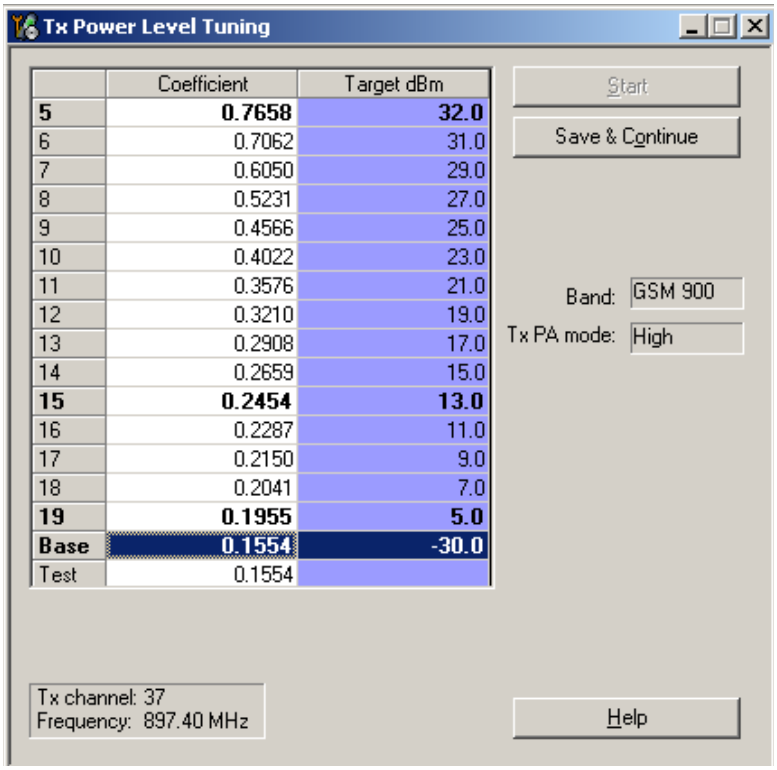
The tuning value can be adjusted with "-" and "+" keys.



6 When tuning values are correct, click "Save & Continue".

If all coefficients are within specified limits, tuning continues on the EGSM850 PA Low Mode with EDGE off.

EGSM850 PA low mode with EDGE off

This tuning step is not required for the RH-26 product, phone will not react to any controls.

7 Click "Save & Continue".

If all coefficients are within specified limits, tuning will continue on the EGSM850 PA High Mode with EDGE on.

EGSM 850 PA high mode with EDGE on

8 Set power meter (or spectrum analyzer) as required.

9 Repeat the same steps as for EGSM High and Low Mode above.

When EDGE is on, tuning must be made for all power levels.

10 **Tune base level and all power levels from 19 to 8** to target level.

11 When tuning values are correct, click "Save & Continue".

If all coefficients are within specified limits, tuning continues on the EGSM850

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PA Low Mode with EDGE on.

EGSM850 PA low mode with EDGE on

This tuning step is not required for the RH-26 product, phone will not react to any controls.

12 Click "Save & Continue".

If all coefficients are within specified limits, tuning continues on the GSM1800 PA High Mode with EDGE off

GSM1800 PA high mode with EDGE off

13 Set power meter (or spectrum analyzer) as required.

14 Repeat the same steps as for EGSM High and Low Mode above.

15 **Tune base level and power levels 15,11 and 0** to target level.

16 When tuning values are correct, click "Save & Continue".

If all coefficients are within specified limits, tuning continues on the GSM 1800 PA High Mode with EDGE on.

GSM1800 PA high mode with EDGE on

17 Set power meter (or spectrum analyzer) as required.

18 Repeat the same steps as for EGSM High and Low Mode above.

When EDGE is on, the tuning must be made for all power levels.

19 **Tune base level and all power levels from 15 to 2** to target level.

20 When tuning values are correct, click "Save & Continue".

If all coefficients are within specified limits, tuning continues on the GSM 1900 PA High Mode with EDGE off.

GSM1900 PA high mode with EDGE off

21 Set power meter (or spectrum analyzer) as required.

22 Repeat the same steps as for EGSM High and Low Mode above.

23 **Tune base level and power levels 15,11 and 0** to target level.

24 When tuning values are correct, click "Save & Continue".

If all coefficients are within specified limits, tuning continues on the GSM 1900 PA High Mode with EDGE on.

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GSM1900 PA high mode with EDGE on

25 Set Power Meter (or Spectrum analyzer) as required.

26 Repeat the same steps as for EGSM High and Low Mode above.

When EDGE is on, the tuning must be made for all power levels.

27 **Tune base level and all power levels from 15 to 2** to target level.

28 When tuning values are correct, click "Save & Continue".

The values are saved to phone's memory.

29 To end tuning, close the "TX Power Level Tuning" dialog.

Typical values: EGSM850

Power level	PA high mode	PA low mode
5	0.700...0.850	-
7	-	0.500...0.600
15	0.210...0.230	0.210...0.230
19	0.180...0.200	0.180...0.200
Base	0.150...0.170	0.150...0.170

Typical values: GSM1800

Power level	PA high mode
0	0.700...0.800
11	0.180...0.230
15	0.150...0.200
Base	0.150...0.170

Typical values: GSM1900

Power level	PA high mode
0	0.800...0.900
11	0.180...0.230
15	0.150...0.200
Base	0.150...0.170

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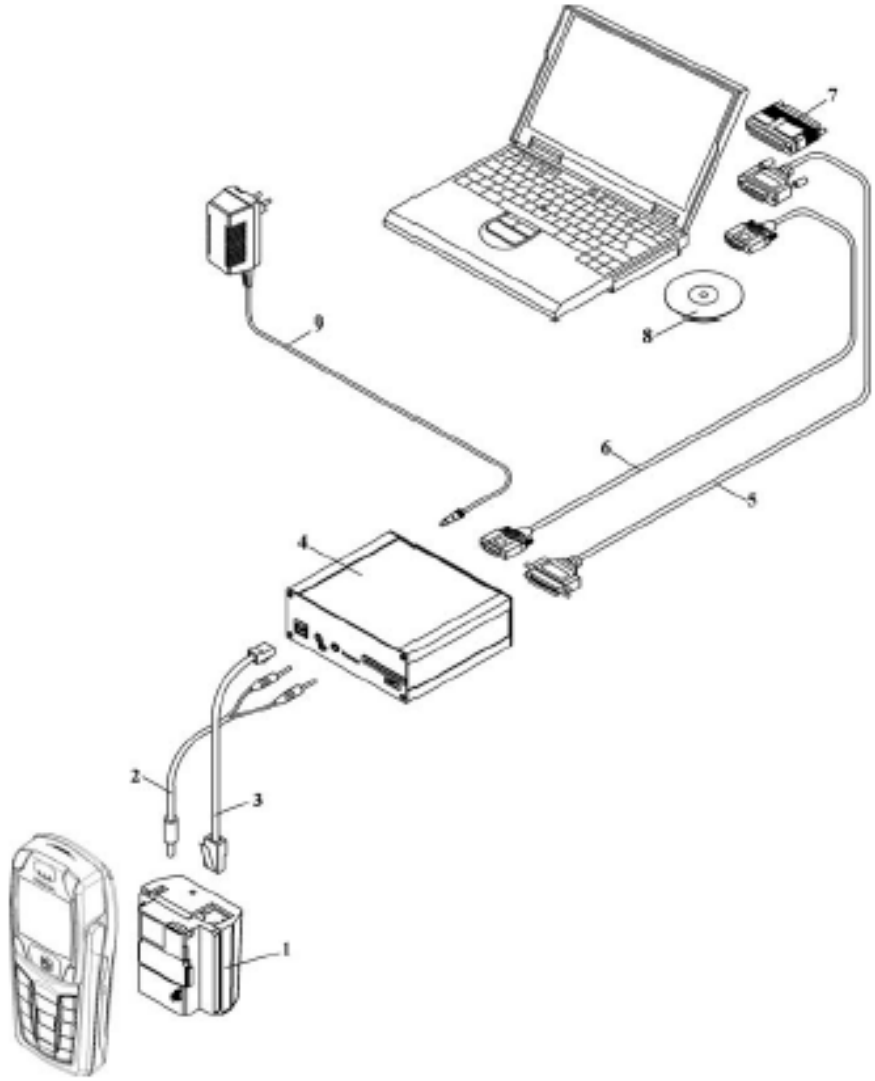
Flashing Setup Instructions

Flash concept with FPS-8



Item	Type	Description	Code
1	SF-5	Point of sales flash loading adapter	0770652
2	FLC-2	Power cable	0730185
3	XCS-4	Modular cable	0730178
4	FPS-8	Flash prommer box	0080321
5		Centronics (printer) cable, incl. in FPS-8 sales package	0730029
6	AXS-4	RS-232 (D9-D9) cable, incl. in FPS-8 sales package	0730090
7	PKD-1	Software protection key (Dongle)	0750018
8		Service SW	???????
9	ACF-8	AC charger, incl. in FPS-8 sales package	0680032

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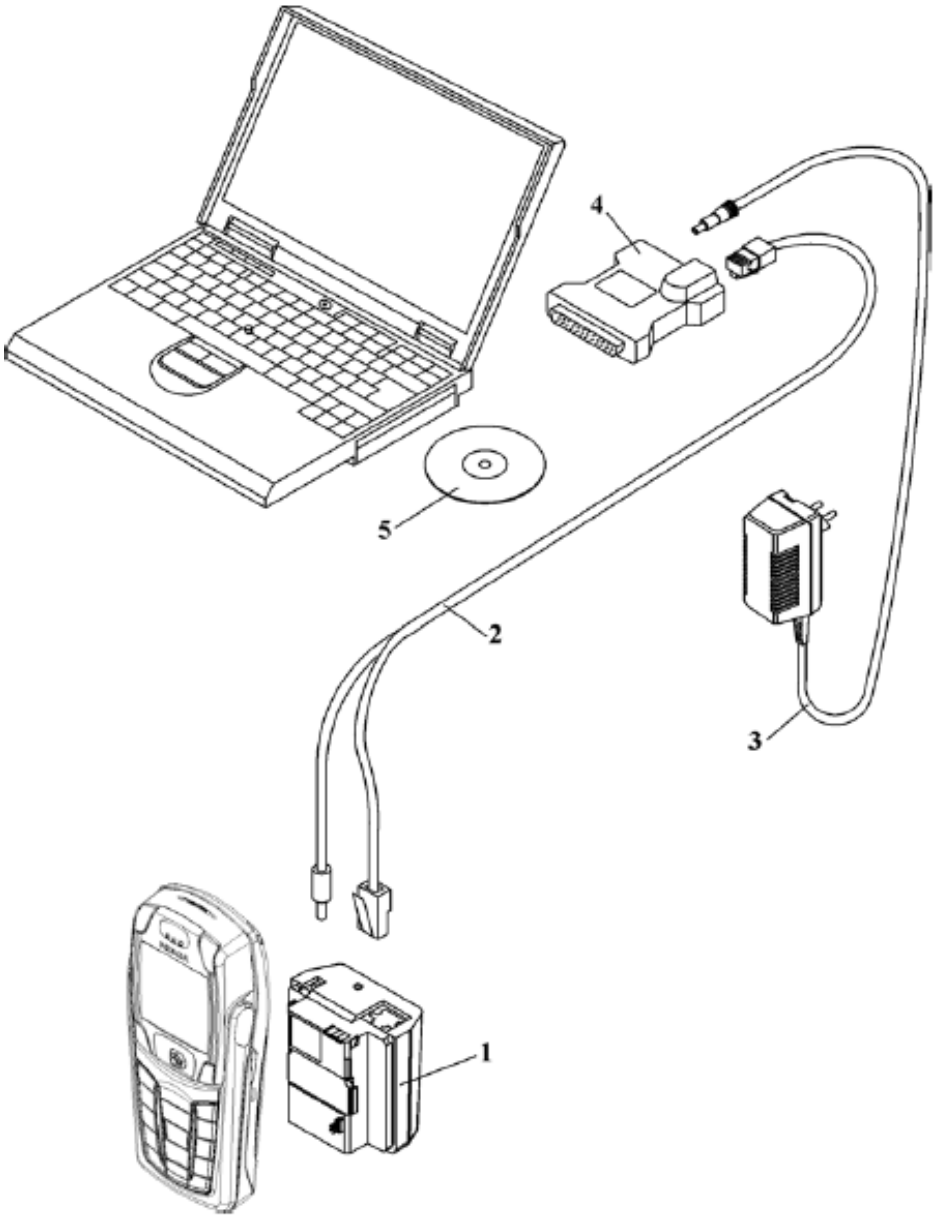
POS (Point of Sales) flash concept



Item	Type	Description	Code
1	SF-5	Point of sales flash loading adapter	0770652
2	XCS-1	Service cable	0730218
3	ACP-8	AC charger	0675***
4	FLS-4S	POS flash dongle, for EMEA area	0080541
4	FLS-4S	POS flash dongle, for APAC area	0080542
5	SW		

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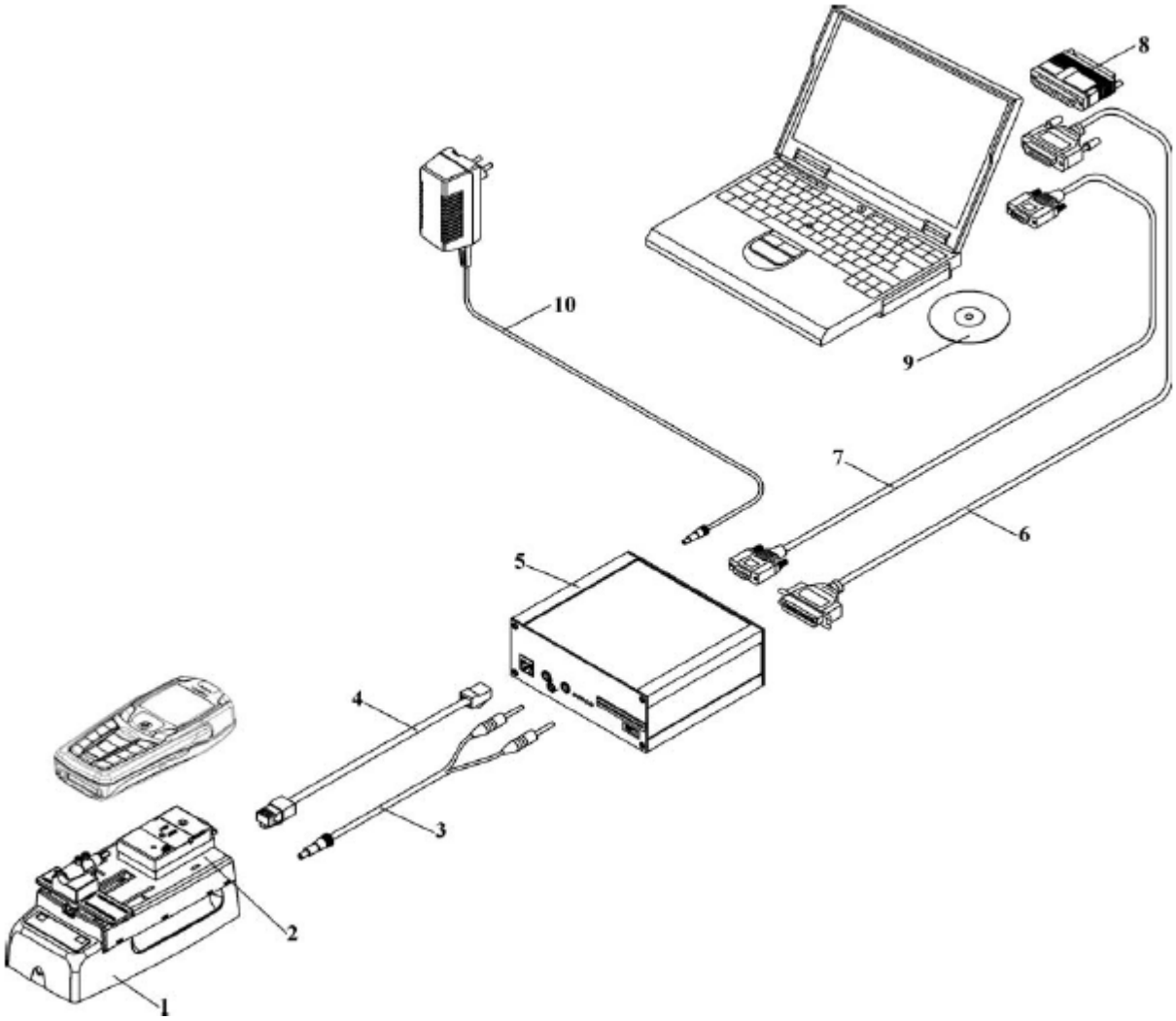
JBV-1 flash concept



Item	Type	Description	Code
1	JBV-1	Docking station	0770298
2	DA-6	Docking station adapter	0770653
3	PCS-1	DC power cable	0730012
4	XCS-4	Modular cable	0730178
5	FPS-8	Flash prommer box	0080321
6		Centronics (printer) cable, incl. in FPS-8 sales package	0730029
7	AXS-4	RS232 (D9-D9) cable, incl. in FPS-8 sales package	0730090
8	PKD-1	Software protection key (Dongle)	075 0018
9	SW		
10	ACF-8	AC charger, incl. in FPS-8 sales package	0680032

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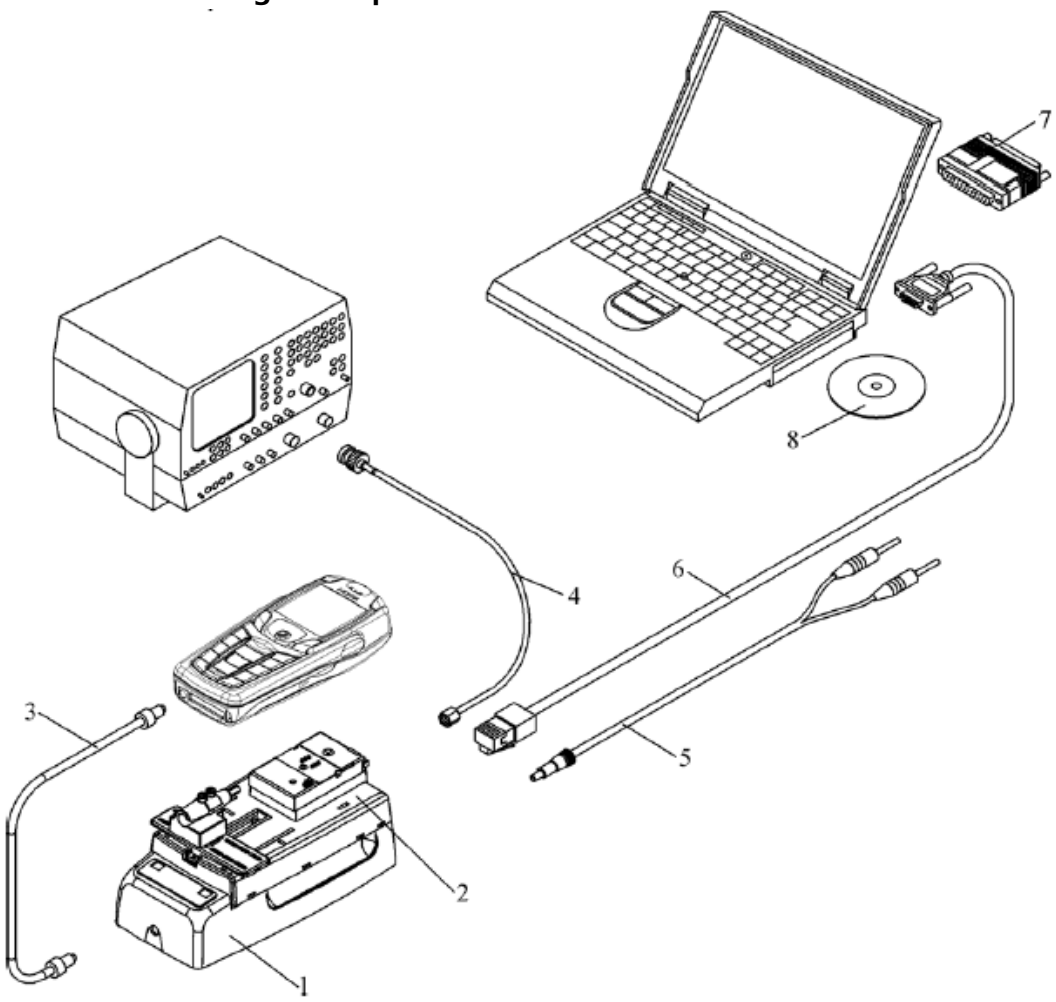
JBV-1 baseband tuning concept



Item	Service accessory	Type	Product code
1	JBV-1	Docking station	0770298
2	DA-6	Docking station adapter	0770653
3	SCB-3	DC-DC cable	0730114
4	XRF-1	Antenna cable	0730085
5	PCS-1	DC power cable	0730012
6	DAU-9S	Service MBUS cable	0730108
7	PKD-1	Software protection key (Dongle)	0750018
8	SW		

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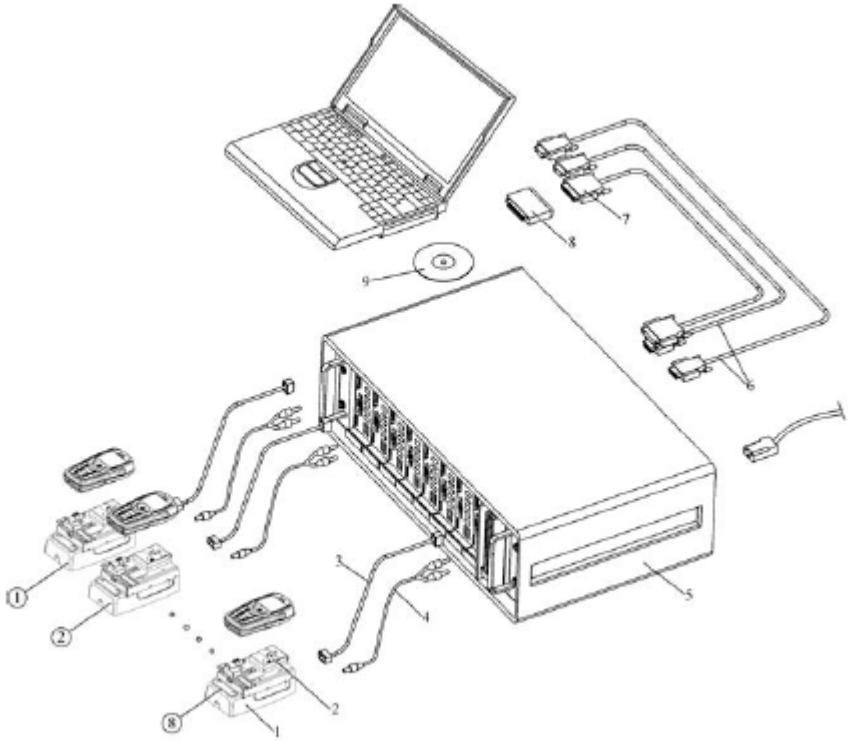
Parallel flash concept



Item	Type	Description	Code
1	JBV-1	Docking station	0770298
2	DA-6	Docking station adapter	0770653
3	XCS-4	Modular cable	0730178
4	PCS-1	DC power cable	0730012
5	FPS-8C	Parallel flash prommer	0080396
6	AXS-4	RS232 (D9-D9) cable, incl. in FPS-8C sales package	0730090
7	Printer Cable	Centronics (printer) cable, incl. in FPS-8C sales package	0730029
8	PKD-1	Software protection key (Dongle)	0750018
9	SW		

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